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PRODUCTS	BARRELS	% THRUPUT	% ULTIMATE
Pressure Distillate*	22,653	25.7	62.9
Recycle	52,163	59.1	....
Fuel Oil	11,729	13.3	32.5
Gas and Loss	1,674	1.9	4.6
Total Charge	88,219	100.0	100.0

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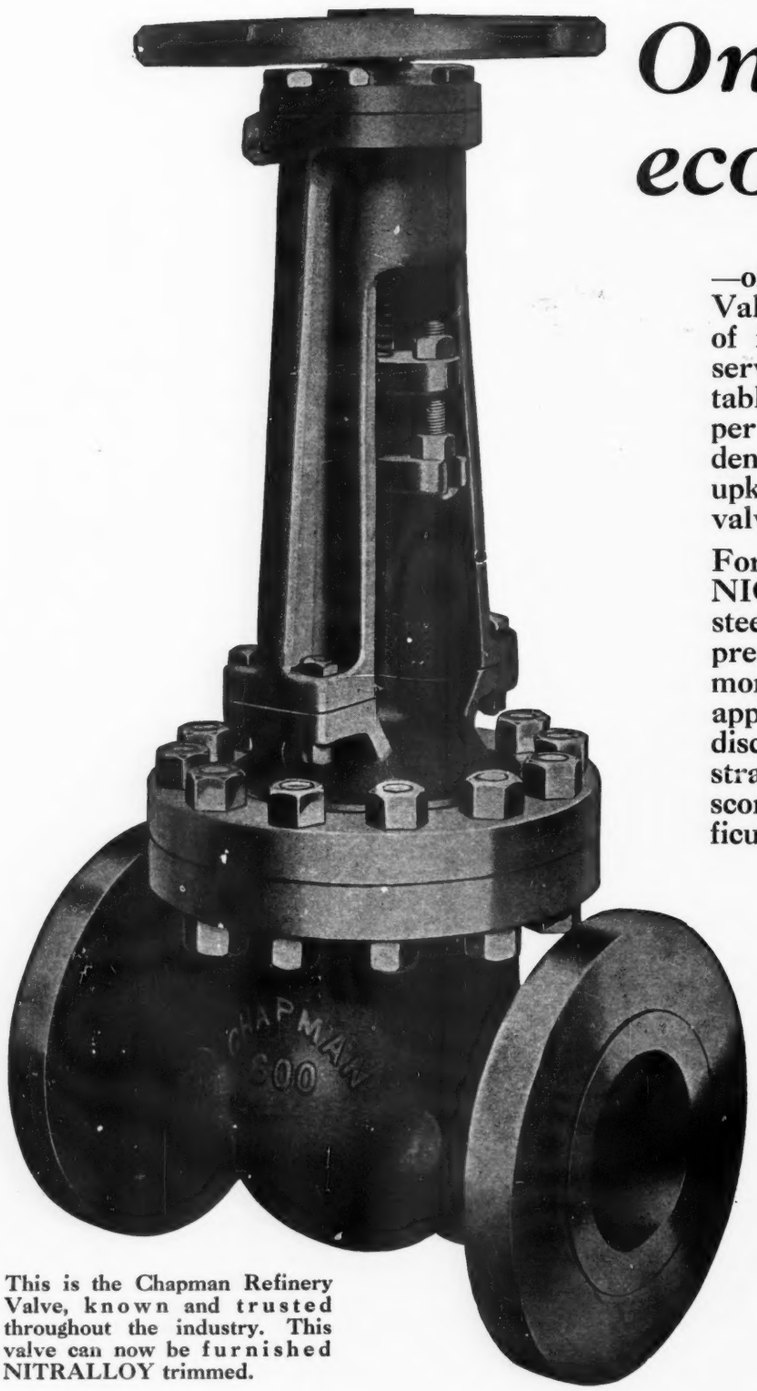

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The Oil and Gas Journal

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Another Week of Production Decline

Highest daily average estimated total production in 1929, week ended Aug. 24, 2,975,435 bbls. Lowest in 1929, Dec. 27, 2,595,320 bbls.

Santa Fe Springs Responsible for Past Week's Decrease. Refugio, Texas, Crude Prices Are Advanced

Highest daily average estimated light oil production in 1929, week ended Sept. 14, 2,534,524 bbls. Lowest in 1929, Apr. 13, 2,142,036 bbls.

By James McIntyre

Notwithstanding producers brought in wells of enormous production in Oklahoma City, Okla., and in Darst Creek, Guadalupe County, Texas, and big wells in the Van Pool in Van Zandt County, Texas, the average daily production of the United States fell below the figure of the previous week. The deep cut ordered in California production was manifest in the past week with Santa Fe Springs dropping from 151,750 barrels to 133,000 barrels per day, and the whole State's production declining to 614,500 barrels per day. Oklahoma fell off a little and likewise Kansas, and the Mid-Continent area shows a decline of 6,310 barrels per day in output.

Gulf Coast hit a new high record of 210,462 barrels, and Southwest Texas rose to 65,645 barrels.

The 15,600-barrel decline in California exceeded the total decline in the United States by 3,795 barrels, so the Pacific State can be credited with the excellent production situation presented at this time.

The Oklahoma Corporation Commission has ordered a three months' extension of the curtailment program in the flush and semiflush pools of that State, which will assure a conservative production in Oklahoma until June 30 at least.

The Humble Oil & Refining Company's action in increasing Refugio heavy gravity crude 20 cents per barrel and putting Refugio light crude on a gravity basis with a low price of 93 cents for 25 gravity and a top price of $1.44 for 44 gravity and above, to take the place of the 96-cent flat price which had prevailed, was an encouraging sign. The increased price comes at a time when the Refugio Field is on the increase in production, its average for last week having been 40,946 barrels per day.

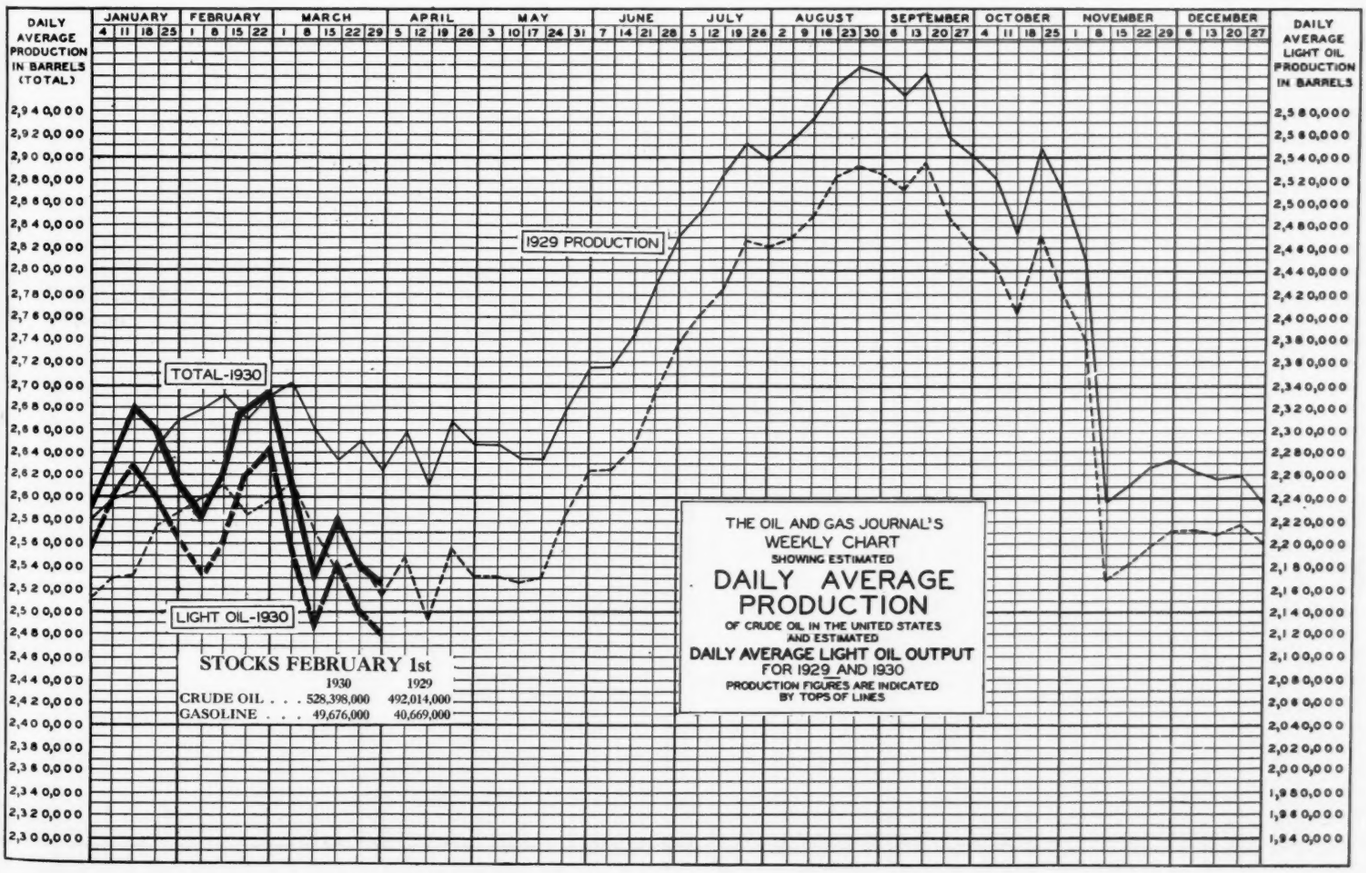
In general the crude situation is in the hands of the producers. The season of greater crude demand is approaching and if the prevailing proration plan is faithfully carried out producers may well hope for better prices before summer. The morale of the producing branch of the industry is high and almost to a unit producers are working for the best interest of all.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended March 29 and a comparison with the previous week follows:

	March 29		March 22	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	73,860	.....	64,025	.....
St. Louis-Pearson	39,820	.....	40,960	.....
Seminole	208,725	.....	222,355	.....
Northern miscellaneous	237,465	.....	233,310	.....
Southern fields	54,390	.....	54,590	.....
Total Oklahoma	614,260	.....	615,240	.....
West Texas—				
Hendricks	87,825	.....	88,545	.....
Yates	136,370	.....	140,420	.....
Remainder	113,881	.....	114,094	.....
Total West Texas	338,076	.....	343,059	.....
North Louisiana	37,980	5,345	33,255	5,410
Arkansas	17,470	41,110	17,540	41,145
North Central Texas	133,755	.....	132,835	.....
Texas Panhandle	89,945	.....	93,645	.....
East Central Texas	26,280	.....	25,712	.....
Kansas	114,180	.....	116,870	.....
Total Mid-Continent area	1,371,946	46,455	1,378,156	46,555
Gulf Coast	.....	210,462	.....	205,728
Southwest Texas	.....	65,645	.....	62,669
Eastern	133,500	.....	133,000	.....
Rocky Mountain area	76,493	.....	74,598	.....
California—				
Santa Fe Springs	133,000	.....	151,750	.....
Long Beach	103,000	.....	104,100	.....
Huntington Beach	30,000	.....	30,000	.....
Elwood	41,000	.....	39,000	.....
Ventura Avenue	44,500	.....	45,250	.....
Seal Beach	25,000	.....	24,750	.....
Remainder of State	162,000	86,000	160,250	85,000
Total California	538,500	86,000	555,100	85,000
Total United States	2,120,439	408,562	2,140,854	399,952
Grand total	2,529,001		2,540,806	

→ **Total Decrease, 11,805 Bbls.; Light Oil Decrease, 20,415 Bbls.** ←



Export Purchases Aid Gasoline Market

Oklahoma Refiners Share in Orders for High Gravity Grades to Be Delivered During April. Neutral Oils Higher

By C. O. Willson

Aided by substantial export buying and more activity in the domestic market the gasoline market in Oklahoma (Group 3) continues to point upward. While the low of the market in both refinery gasolines and natural gasolines remains practically the same as last week, a number of refiners have raised their quotations an eighth to a quarter cent with additional advances predicted before the fifteenth of the month.

The Carter Oil Co. (Standard Oil Co. of New Jersey), Cities Service Export Oil Co., Sinclair Refining Co. and Atlantic Refining Co. placed orders with Mid-Continent refiners for 390 and 375 end-point high gravity grades on the same price basis as last month. This business is said to total between 12,000,000 and 13,000,000 gallons for April delivery being slightly less than the total for March. The placing of these orders has materially strengthened the gasoline position of a number of refiners and this minimizes the chances of any distress material appearing on the market during the month.

The other advance of the week was in the neutral oils. The advances ranged from one-quarter to 1¼ cents a gallon, the largest increases being in the high viscosity grades.

Kerosenes are at least holding their own with a difference in opinion in the several Mid-Continent areas regarding the position of this product. The principal weakness appears to be North Louisiana group of refiners where prices are usually higher than in any Mid-Continent area. The production of kerosene has increased in that area due to a changing crude oil supply. While the refiners have maintained their local prices, material at low quotations has been offered both for export and domestic movement. In contrast to the North Louisiana situation, the North Texas market is strong due to a large local demand from the agricultural sections of the State.

Fuel Prices Lower

Some grades of fuel oil are lower in price and the spurt in the gas oil and distillate demand has ended and prices have returned to the levels in effect early in March. The fuel oil situation is mixed. Several refiners who have little material to offer on the spot market are getting from 75 to 85 cents a barrel for fuel oil ranging from 8 to 22 gravity. This is desirable fuel oil of low viscosity and low cold test. At the same time other fuel oil of the same gravity range has sold from 60 to 70 cents a barrel. Some of the latter fuel oil was said to be off specification material but it was satisfactory to many of the spot buyers. The quantity of all grades available for spot shipment is small.

The situation in regard to fuel oil in which sellers and buyers are more discriminating in their sales and purchases with wide ranges in prices has been general over the past several months. So far as the statistical situation is concerned the Mid-Continent situation is much better than it was a year ago. The latest report of the American Petroleum Institute shows that stocks of fuel oil and gas oil on March 22, 1930, totaled 3,024,000 bbls. in Oklahoma and Kansas. This contrasts with stocks of 5,316,000 bbls. at the end of April last year. In Louisiana and Arkansas stocks for the same relative periods have decreased from 6,171,000 bbls. to 2,064,000 bbls. the bulk of the decrease being in the Coastal area. The stock situation in these products generally improved over the past few months. Of the total stocks of 137,249,000 bbls. on March 22, 1930, 108,936,000 bbls. were in California.

Most market students agree that conditions point to higher rather than lower fuel oil prices including gas oil and the distillates used as fuels. It is believed that the improved statistical situation will continue. The weakness in the fuel oil market which extended over the greater part of the past three years can be accounted for largely as a development of excess crude oil supplies, particularly the low gravity grades which

(Continued on Page 142)

REFINED MARKET BAROMETER

Refinery tank car prices were advanced in several areas during the past week reflecting an improved statistical situation brought about by a seasonal increase in consumption without a corresponding increase in supply. The only weakness reported was in California where prices on both refinery gasoline and natural gasoline for domestic movement have been reduced due to a highly competitive situation in retail markets. The fuel oil market was divided, additional strength being apparent at some of the coastal points while in the Mid-Continent and Middle West prices generally were lower. There were no important changes in the kerosene situation which continues generally firm. Furnace oil and gas oil prices lower when any changes were made. Neutral oil prices were advanced in the Mid-Continent and the demand was reported fair to strong in other sections. Cylinder stocks were unchanged with a strong demand for bright stocks in some areas. Wax prices continue to reflect weakness in that product.

Mid-Continent—Refinery gasoline prices aided by large export orders higher in all areas. Natural gasolines firm. No general changes in kerosene prices. Fuel oil prices lower. Gas oil and distillate reduced in price fractionally by a large number of refiners. Neutral oil prices advanced. Wax inactive.

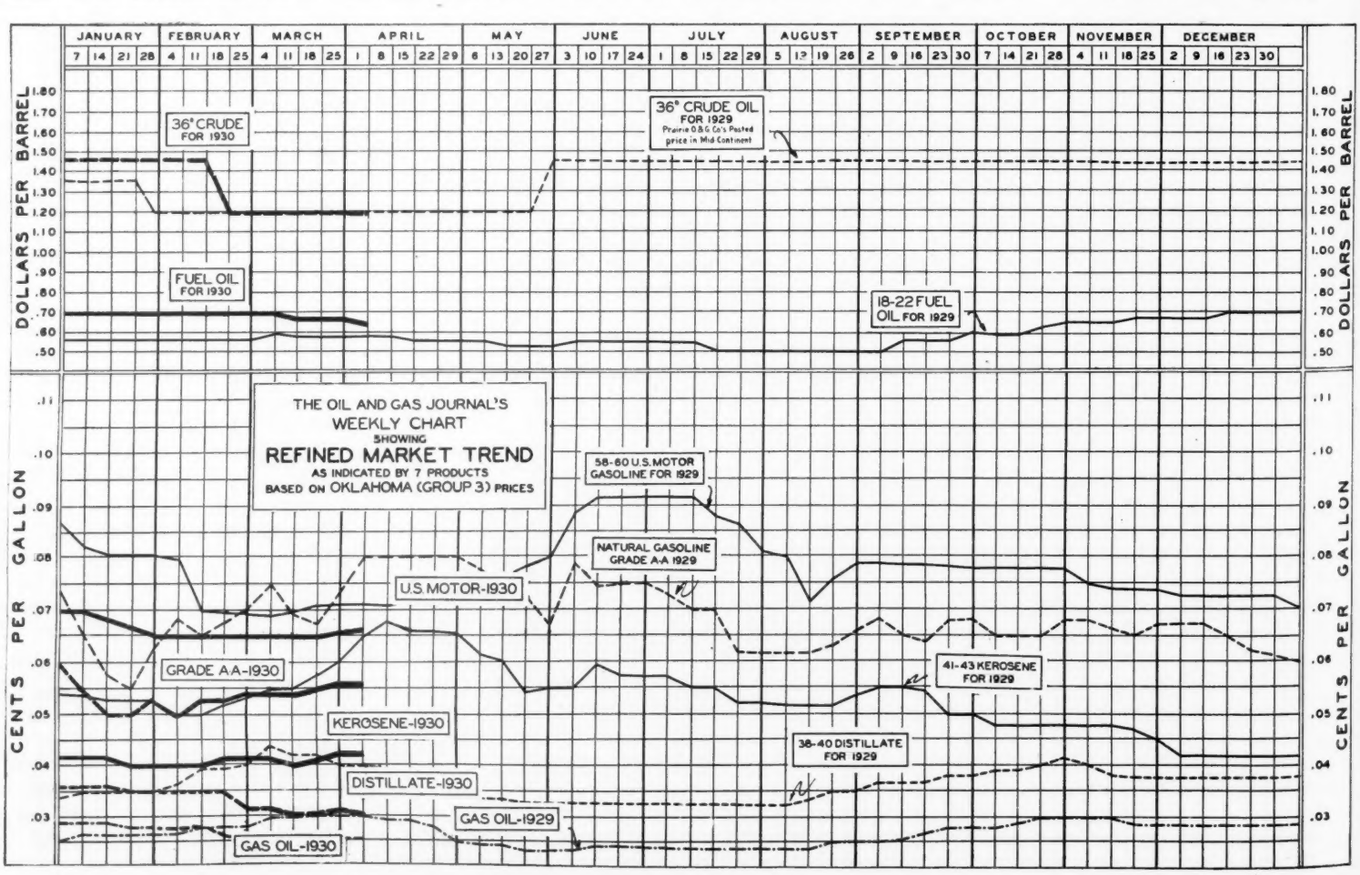
East Coast—Refinery gasoline prices higher with improved demand. Better demand for kerosene. Furnace oil more active. Wax weak. Slow demand for cylinder stocks.

Pennsylvania—Gasoline and kerosene stronger. Improved movement of cylinder stocks and neutral oils.

Gulf Coast—Lowered supply of fuel oil due to expansion in cracking has strengthened fuel oil market and prices higher on bunker grades in cargo shipments. Gasoline more active. Fair movement of pale and red neutrals.

California—Some shading of prices both in refinery gasolines and natural gasolines. Other products unchanged.

Chicago—Cold weather slows up gasoline demand and movement not heavy although prices are fairly firm. Good movement of kerosene. All grades of fuel oils and distillates sluggish.



Consider Tubing Yates Pool Producers

Gulf Reduces Gas Oil Ratio by Its Program. Humble Gasoline Plant Can Handle Output If Ratio Reduced

By L. G. E. Bignell
Petroleum Engineering Editor

IRAAN, Tex., Mar. 31.—The Yates Pool in Pecos County, Texas, is a big factor to be reckoned with by the oil industry of this country but it is being so managed that it will never be a menace and the operators there are working together harmoniously to the end that the maximum production from each lease may be secured at the lowest cost. The pool is now under proration with R. W. Richmond as the umpire for the district. A meeting of the engineers and operators was held in the recreation hall of the Mid-Kansas and Transcontinental companies March 26 for the purpose of discussing several of the problems now confronting the companies in this area. This meeting was attended by about 35 men representing all of the interests in the Yates Pool and Mr. Richmond acted as chairman and P. P. Gregory, proration petroleum engineer, as secretary for the meeting.

The question of tubing program was brought to the attention of the operators because some of them in this field favor tubing all the wells which flow through casing at this time and are producing the oil at a cubic-foot per barrel ratio in excess of 400 feet of gas.

Mr. Richmond informed those present that the Humble Oil & Refining Co.'s gasoline plant will be able to handle all of the gas in the field if excessive gas-oil ratios on some wells are reduced to a figure of approximately 400 cubic feet per barrel of oil.

Proration office force Yates Pool, Iraan, Tex. Left to right: P. P. Gregory, petroleum engineer; Miss Glen Crawford, chief clerk; R. W. Richmond, umpire.

Test Conducted

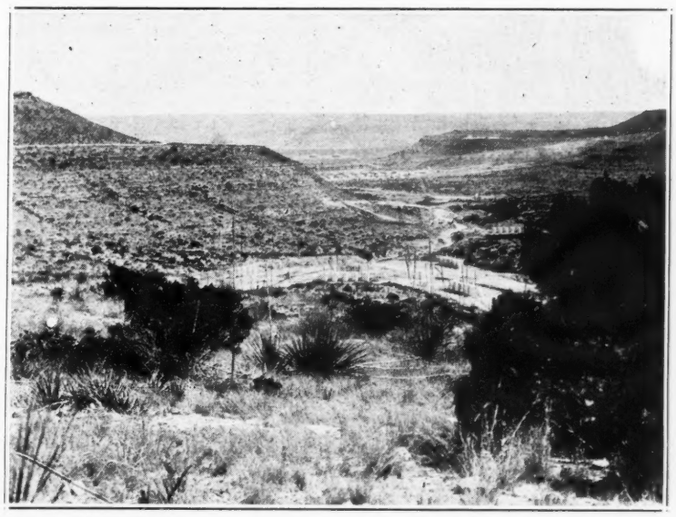
In order to arrive at a figure for the average gas-oil ratio for the entire field, a test was conducted on 97 wells in January which gave an average of 337 cubic feet of gas for each barrel of oil produced. However, wells on the east side of the field where gas-oil ratio runs high were not tested, and it is therefore assumed that the gas-oil ratio can be expected to be higher than 337 cubic feet for the whole pool.

T. W. Rhoads, petroleum engineer for the Gulf Production Co., stated that the cost for tubing his company's wells was approximately $50 per well which included labor and trucking. The material used in this work was considered as necessary expense for it will be required in any event when the wells are put on the pump and is not included in this figure.

The results so far obtained by the Gulf Production Co. in tubing eight of its wells that vary in depth from 1,200 to 1,500 feet, according to the surface elevation of the land, were in its estimation very satisfactory and the company intends to continue to follow this program of tubing all wells as by so doing it finds it is materially reducing the gas-oil ratio.

One of the Gulf Production Co.'s wells when producing through the casing had a gas-oil ratio of 2,300 cubic feet of gas per barrel of oil and after tubing the oil was found to be high and it was then decided to tube the wells. The relative merits of the regular type taper string of tubing and a variation of this form of ejector string was considered by the Gulf engineers and the result has been the adoption of the following method.

It has long been the practice of the Gulf Production Co. to make a special collar for strings of tubing that is provided with a seat on the inside into which the short nipple carrying the standing valve and its seat is screwed. This shoulder is made by welding four pieces of strap iron to the sides of the collar and then threading these projections for the short pipe nipple that carried the standing valve.



View in Yates Pool taken from road above the discovery well looking toward Mid-Kansas Oil & Gas Co.'s No. 1 Camp.

gas required to produce a barrel of oil was only 237 cubic feet. This is not only a conservation of gas but it has been found in some instances that the actual oil production of the well has been increased.

It has been found that the bottom hole pressure of these wells as secured with pressure bombs is about 700 pounds per square inch and as the wells are about 1,400 feet deep this pressure is sufficient to flow them in a natural way. The wells first produced through either the 6-inch or 8-inch casing and in some instances where the production was large it was found that the gas-oil ratio under that method was below 400 cubic feet per barrel of oil.

In Small Wells

On some of the smaller wells the quantity of gas required to produce the

With this type of collar available it was decided to use 2-inch tubing from the top to the bottom of the hole and instead of threading the shoulders inside the collar for a pipe these shoulders were beveled to take the end of the 1-inch collar that had been beveled to make a snug but not tight fit into this seat.

The 1-inch string of tubing is run inside the 2-inch tubing to such a height that the best gas-oil ratio for producing the oil can be obtained and the top of the 1-inch string is fitted with a 1½-inch swaged nipple. This nipple makes a snug fit inside the 2-inch tubing and while it does not serve as a tight packer it will prevent the oil from swirling around the upper end of the ejector tube.

This upper swaged nipple is fitted with a latch and notched in such a way that a special fishing tool can be run inside the 2-inch tubing and the 1-inch string picked up and pulled out easily. This arrangement permits changing the length of the 1-inch string of tubing as conditions demand and has the advantage over the regular type tapered string in that it does not require that the whole string be pulled to change the ratio of small to large tubing strings.

The oil and gas leaving the 1-inch string of tubing has opportunity to expand inside of the 2-inch string and in this way secure its greatest efficiency. In this particular it acts the same as in the regular type string of tapered tubing.

In order that the 1-inch inside string may be handled into and out of the 2-inch string without the well flowing into the derrick the bottom of the 2-inch string is fitted with a telescoping joint of pipe from 3 to 4 feet long below the special collar described above. The usual joint or two joints of 2-inch anchor tubing at the bottom of the hole is placed below the telescoping joint.

This telescoping joint is perforated with a series of matched holes in both the inside and outside sections of pipe and when the pipe rests on bottom the telescope joint slips together and the holes are open and oil can enter the string of tubing.

When it is desired to pull the well the 2-inch string is picked up and the telescope joint opens and the ports drilled through the outside and inside portions of this joint no longer match and the string can be handled dry.

This system of tubing wells on the Gulf Production Co.'s properties is proving very efficient and that company's engineers have worked out a number of variations of this idea which permits them to use gas from a compressor to flow the wells where such conditions are necessary.

Tapered Tubing Advantages

W. A. Schaeffer, of the Shell Petroleum Corp., referring to its tubing program stated that if tubing were properly selected with regard to the various sizes used to secure the correct gas expansion ratios the tapered strings of tubing could be used to better advantage than the straight strings. The Shell Petroleum Corp. is using tapered strings of tubing in some of its wells in the Yates Pool

(Continued on Page 143)

Group of operators and engineers at field meeting held in Recreation Hall of Mid-Kansas and Transcontinental Oil Co., Yates Pool, March 19.

Torsion Balance Survey at Esperson

At Least Two Types of Maxima, One Indicating a Shallow Dome, and Other Indicating Presence of Conflicting Basins of Minima

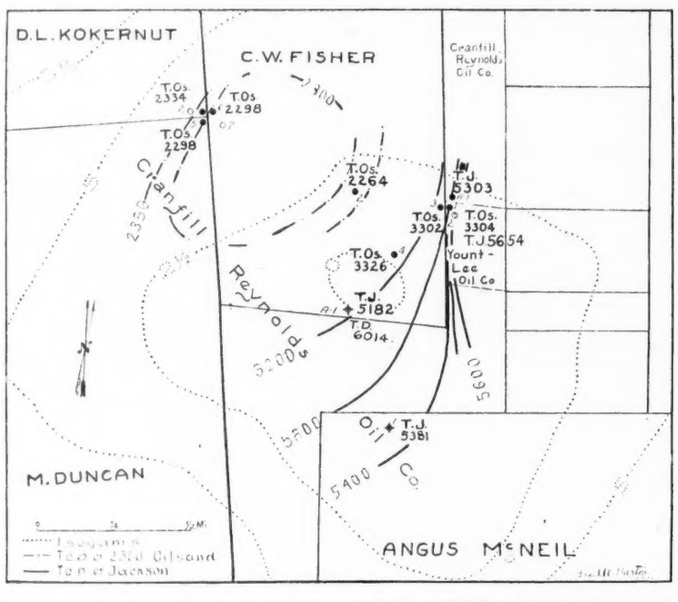
By Donald C. Barton
Consulting Geologist and Geophysicist, Houston, Tex.*

The Esperson dome was mapped by a torsion balance crew of the Union Exploration Co. under the direction of Mr. Iden during the late summer or early fall of 1928. The presence of the dome was not corroborated by seismograph work previous to the drilling and the prospect was regarded rather dubiously in general opinion. The first two wells which found no production showed a definite uplift on the top of the Jackson (uppermost Oligocene). Some of the seismic geophysicists then reported a slight irregularity at the prospect but no definite indication of a salt dome. The discovery well, Harvey Smith's No. 1 Moores Bluff, was brought in on August 16, 1929, at an initial depth of 1,304 feet. A number of additional producers have been completed and production has been completed for not quite a mile to the west.

Torsion Balance Survey

The major feature of the torsion balance survey is a large minimum approximately well around the producing area. Somewhat lesser features of the present survey are the indications of rather definite maxima to the northeast and to the southwest, respectively, of the center of the minima and the indications of the presence of a sharp minimum in the extreme northeast area of the survey. The center of the main minimum is shifted south-southeastward from the center of uplift which seems to be indicated by the drilling to date. The exact center of uplift has not been defined yet, but the two southernmost wells show a southerly dip on the top of the Jackson, one of the most easterly wells shows the depth to the top of the Jackson the same as at the southernmost of those two wells and the westernmost of the producing wells seems to indicate a slight westward dip on the 2,300-foot producing sand. The center of uplift tentatively, therefore, seems to be approximately about two-thirds of the way from the easternmost group of producers toward the westernmost group of producers. The center of the minima lies about at the C. W. Fisher A-1, one of the first two dry holes, and, therefore, is shifted about one-half mile south-southwest from the center of uplift.

The northeast minima can be seen plainly to be the gravity anomaly of the South Liberty-Dayton salt dome. The maximum northeast of the main minimum lies almost exactly halfway between the center of the South Liberty-Dayton dome and the center of the Esperson dome and very evidently is due to the presence of sediments lying between the two salt masses or it can be thought of as the residual or interference maximum between the two basins of minimum. The maximum to the southeast of the Esperson minimum presumably is produced by the similar interference of effects of the Esperson minimum with the Lost Lake minimum and in part also to the Barbers Hill minimum.



Interference Effects

The accompanying cross section shows the calculated form of the Esperson dome, also the interference effects of the Esperson and South Liberty-Dayton domes. The South Liberty-Dayton dome is a known dome and the form of salt mass and cap is known down to about 4,000 feet. The density relations are not known definitely but in general the cap rock has a mean specific gravity of about 2.6, the salt a specific gravity of 2.19± 0.03. The sediments have a specific gravity that seems to increase gradually downward and to get a calculated profile which agrees approximately with the observed profile, we have to use the assumption that from about 1,000 to 4,000 feet, plus or minus, the salt and the surrounding sediments have about the same density. From 6,000 to 9,000 feet the salt is about 0.05 lighter than the surrounding sediments. From 9,000 to 12,000 feet, the salt is 0.10 lighter than the surrounding sediments. And from 12,000 to 15,000 feet the salt is 0.15 lighter than the surrounding sediments. Using these assumptions in regard to the density relations and assuming that the top of the salt comes to a depth of 6,000 feet below the surface on the top of the Esperson Dome, we calculated the salt mass which would produce a calculated profile essentially the same as the observed profile. The calculations were done by the writer's method of graphical charts. The calculated effect of the South Liberty-Dayton Dome is shown by the profile with the crosses and the calculated effects due to both domes are shown by the profile with the solid circles. Although radical, this assumption in regard to the density would not give improbable calculated effects. Slightly greater or slightly less relative density may be used, but will produce slightly different form of the calculated salt mass.

As the form of the South Liberty-Dayton salt mass is fixed, to a considerable extent, not as much leeway is allowed in the variation of the density assumptions. The depth of 15,000 feet for the base of the salt was taken arbitrarily but gives a rather good fit. A tentative study of the effect of extending the salt masses to 20,000 feet gave improbable calculated effects on the first two trials, but it is possible that by further calculating a reasonable fit of calculated to observed effects could be obtained. The salt, however, could be extended to 16,000 or 17,000 feet without seriously affecting the closeness of the fit of calculated to observed gradients. The position of the top of the salt on the Esperson dome is extremely indefinite. As the density difference between the salt and the surrounding sediments at a depth of 6,000 feet is very slight, the upper 2,000 feet of the salt, that is the salt between 6,000 and 8,000 feet, produce very slight effect, and the top of the salt mathematically could be at 7,000 feet or at 7,500 feet with as great probability as at 6,000 feet, or a spine of salt may extend from 8,000 feet to 6,000 feet. The only two deep wells on the dome or apparently on the flank and not on the crest of the dome have not yet encountered salt by drilling, although its presence is definitely shown by the torsion balance survey.

Center of Observed Minima

The reason for the shift of the center of the observed minimum from the center of uplift may be produced in either of two ways:

The effect of the minima in the adjacent territory such as the South Liberty-Dayton minima, the Lost Lake minima, and the Barbers Hill minima, the sum total of the effects of such minima plus the effect of salt ridges or any other large scale effects in the area will produce a regional warping of the variation of the gradient which will be independent of the particular dome under consideration and, as can be seen from the cross section, the effect of the South Liberty-Dayton dome is approximately over the center of the Esperson dome and will

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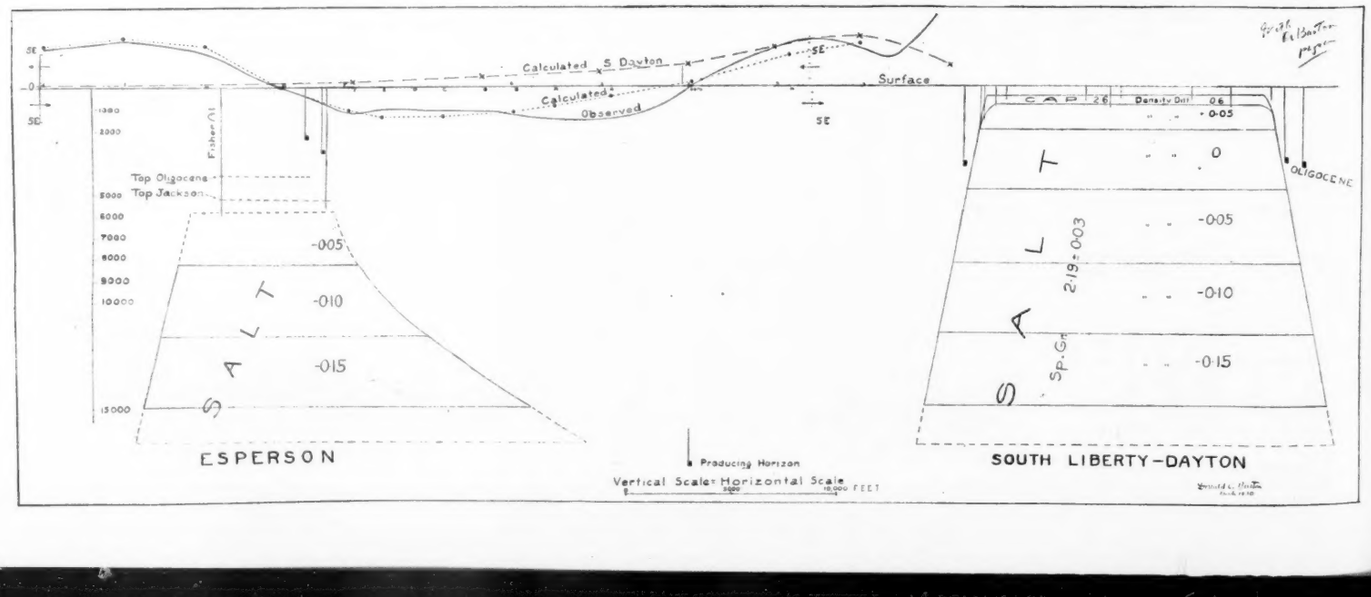
*Before fifteenth annual meeting, American Association of Petroleum Geologists, New Orleans, La., March, 1930. Revised paper will be published in the A.A.P.G. Bulletin.



Operations in Kettleman Hills Field

Description of Drilling Conditions and Practices and Discussion of Producing Operations and Pressure Control

By R. I. Brown
Petroleum Engineer, Standard Oil Co. of California*

The Kettleman Hills oil field, situated in the western part of Kings and Fresno Counties, is characterized by some very interesting and rather unusual operating conditions. This is due to the combination of the following factors:

1. Unusually hard, tough or abrasive formations throughout major portion of drilling.
2. Depth to producing zone.
3. Consequent high pressure encountered.
4. Character of production.

Although the first commercial production from this field was not obtained until late in 1928, the Kettleman Hills had previously been extensively wildcatted. Records indicate nine wells had been drilled prior to November, 1900, while the total number of wildcats drilled was 38, representing something over 19 miles of hole.

When the Milham Exploration Co.'s No. 1 Elliott, prospecting on the North Dome of Kettleman Hills, blew out in October, 1928, after having been drilled to over 7,000 feet, it produced at the rate of nearly 100,000,000 feet of gas and over 4,000 bbls. of colorless 60° A. P.I. gravity oil daily, demonstrating discovery of this remarkable field, and indicating that the North Dome structure might be expected to develop wells capable of the production of large volumes of gas and of oil closely resembling commercial gasoline.

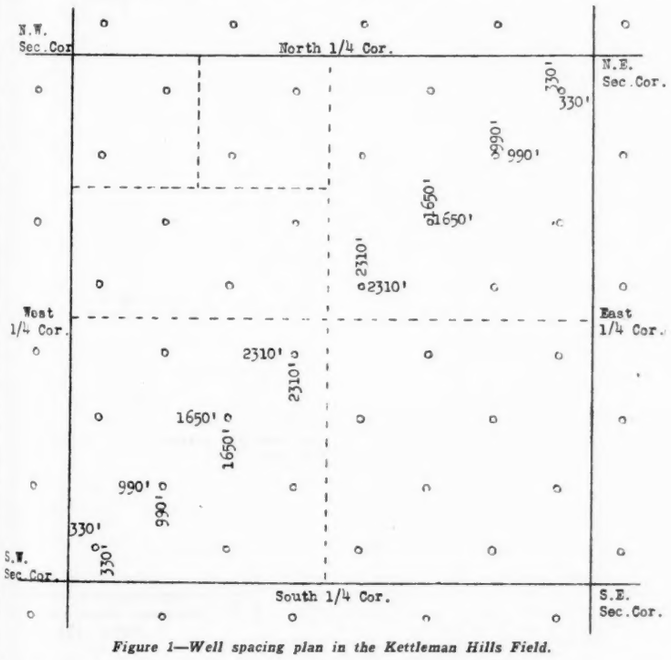


Figure 1—Well spacing plan in the Kettleman Hills Field.

Preliminary Operations

Following discovery immediate development of the field was undertaken. Property ownerships on the structure were confined to a relatively small number, and were mostly in large blocks. This, combined with the high gravity of the oil and large amount of gas accompanying its production, (thus leading to a large drainage radius), made both desirable and feasible the uniform well spacing plan adopted by most of the operators. Figure 1 illustrates the well spacing plan.

Preliminary operations included the establishment of camps, grading of roads, the development of a supply of water by drilling water wells in the vicinity of dry Tulare Lake, and the construction of water pipe line systems. When the extent of the field and the roughness of the terrain are considered it will be realized that the engineering difficulties and the expense involved were of no small consequence.

Drilling Equipment

The hardness of the formations encountered and the desire to complete wells with a hole capable of being deepened to possible lower zones makes it necessary to use equipment of the latest and best design throughout. Design, materials and strength of drilling equipment are carefully studied by operators before the selection of materials and equipment is made.

Derrick—In general, the derrick selected is a standard 122-foot, 26-foot base steel rig.

Power—Various types of prime movers are employed, including straight steam, Hild Electric, and Hydrill steam and electric. These various types all appear to be satisfactory to the users, though a detailed study of all the wells in the field might yield interesting information regarding relative advantages.

Draw works—Emsco, Oilwell, and Union Tool four-speed chain driven, and Hydrill six-speed gear driven, draw works are used.

Rotary machine—Union Tool, Oilwell and Emsco chain driven, and Hydrill shaft driven, tables are used; 27½-inch and 24-inch chain-driven tables and the 20-inch shaft-driven type are common sizes.

Engines or power—The usual type of Oilwell or Union Tool 11 x 11 horizontal twin engine is used as well as the newer Hydrill three-cylinder vertical engine. Westinghouse and General Electric motors from the 25-65 up to 150 horsepower type are in common use at electrically operated rigs.

Slush pumps—Both motor driven and steam slush pumps are used. A common set-up is two 14-7½-14 pumps, one having a 1,500-pound and one a 3,000-pound fluid end. These are manifolded for compounding and are considered satisfactory for working pressures up to 2,000 pounds or thereabouts. Gardner-Denver, Wilson Snyder, Oilwell and Union Tool pumps are used.

Such a variety of makes of rig irons, traveling and crown blocks, swivels, drill pipe and tool joints, rope, etc., are used as to make it impossible to indicate what the major preferences are. As is usual, each size, make and type of equipment has its adherents and at this time no impartial survey as to what equipment is best suited has been completed.

Drilling Conditions

Drilling starts in hard sands and sandy shales. Loss of circulation occurs at depths ranging from 200 to 2,000 feet.

The formations from the surface to around 4,300 feet are predominantly sandy, hard and quite abrasive. Between 4,300 and 4,700 feet brittle shales which cave easily are encountered. In some wells these cavey shales extend in depth to the top of the hard brown shale, while in others various amounts of hard gray sand intervene between the cavey shales and the brown shale.

The brown shale, encountered at about 5,000 feet has a thickness of approximately 1,250 feet and is very hard, abrasive and difficult to drill. At from 140 to about 300 feet below the top of the brown shale there is a flowing salt water, accompanied by a small amount of gas, and in one instance, by traces of heavy black oil. Although this flowing water is usually of small volume, ordinarily about 60 bbls. per day, it is under considerable head and in certain wells, will build up a shut-in pressure at the surface as high as 1,800 pounds per square inch. It gives considerable trouble by "cutting" the circulating fluid.

Below the brown shale, or at a depth of about 6,250 feet, lies the producing zone known as the "Temblor" formation, whose thickness exceeds the 1,000 feet of present maximum penetration.

The producing zone is made up of sands and shaley sands interspersed with gray to black colored shales and sandy shales. The sandy members are from very fine to coarse-grained, usually firmly cemented and are extremely abrasive.

Drilling Practices

During the drilling of a well in Kettleman Hills the "condition" of the circulating mud is of paramount importance and subject to almost constant observation. Mud weights of 80 to 85 pounds per cubic foot are in general use, not only to prevent caving of the brittle shales, but also to retard the action of the flowing salt water. The employment of weighting and conditioning agents in the mud is common.

While drilling through the oil zone, the proper kind and weight of circulating mud is necessary at all times to prevent blowouts. Additional protection against blowouts is secured by the use of surface equipment that is capable of completely closing in the wells.

Coring is fairly extensive in spite of the difficulty of cutting the hard formations. Coring from an appreciable distance above the producing zone led to the discovery of a 1 to 2-foot stratum of clay-like silica, or "Bentonite" lying 50 to 100 feet above the top of the oil sand, with no water intervening. This

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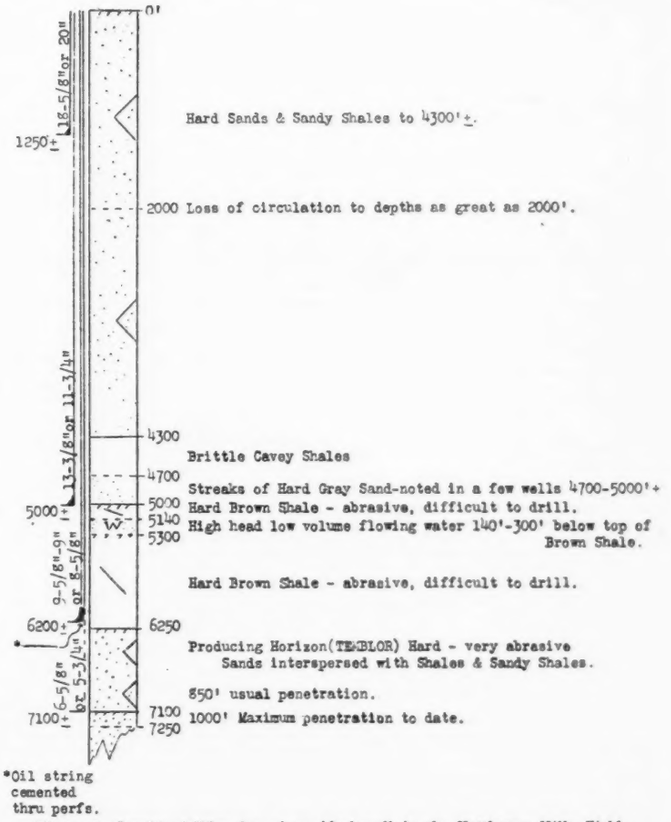

0'
18-5/8" or 20"
1250+
Hard Sands & Sandy Shales to 4300'±.
2000 Loss of circulation to depths as great as 2000'.
13-3/8" or 11-3/4"
4300
Brittle Cavey Shales
4700
Streaks of Hard Gray Sand-noted in a few wells 4700-5000'+
5000
5000 Hard Brown Shale - abrasive, difficult to drill.
5140
5300 High head low volume flowing water 140'-300' below top of Brown Shale.
9-5/8" or 8-5/8"
Hard Brown Shale - abrasive, difficult to drill.
6200+
6250
Producing Horizon(TEMBLOR) Hard - very abrasive Sands interspersed with Shales & Sandy Shales.
6-5/8" or 5-3/4"
850' usual penetration.
7100+
7100
7250
1000' Maximum penetration to date.
*Oil string cemented thru perfs.

Figure 2—Graphic drilling log of an ideal well in the Kettleman Hills Field.

*Before A.P.I. meeting at Oil Equipment and Engineering Exposition, Los Angeles, Calif.

Answer Contrasts Government's Policies

Standard Oil Co. of California Files Reply to Government Suit in Equity on Gasoline Marketing

SAN FRANCISCO, Calif., Mar. 31.—The answer of the Standard Oil Co. of California has been filed to the Government's suit in equity against the Standard Oil Co. of California, Richfield Oil Co., General Petroleum Corp., Shell Co. of California, Union Oil Co., The Texas Company, Associated Oil Co., Marine Refining Corp., Hancock Oil Co., Macmillan Petroleum Co., Rio Grande Oil Co., Edington-Witz Refining Co., Hercules Gasoline Co., Seaside Oil Co., Shanley Gasoline Co., Sunland Refining Co., U. S. Refining Co., Vernon Oil Refining Co., Western Oil & Refining Co. and F. R. Long.

The answer in general denies any conspiracy on gasoline prices. Paragraph 6 denies that the Standard Oil Co. of California, "under the direction, management or control of its officers or agents, or otherwise, has or have carried on the interstate trade and commerce of said corporations in gasoline manufactured by them as aforesaid as described in said petition, and denies that this defendant has carried on trade or commerce in accordance with or pursuant to an understanding or agreement between defendant corporations, or with any of defendant corporations, to eliminate competition among themselves, or any of them, as to prices, terms or conditions of sale; denies that by agreement this defendant has from time to time, or at any time, fixed uniform or noncompetitive prices to be charged by it or by any of defendant corporations for said or any gasoline; admits that it has quoted prices and made sales of gasoline in the ordinary course of its business, but denies that such quotations or sales have been according to any understanding or agreement such as that described in the petition, or any understanding or agreement with any of the other defendant corporations, or at prices fixed by any such understanding or agreement; denies that this defendant has caused retailers to quote prices or make sales of said gasoline at said prices so fixed, or at any prices; admits that it has refrained from quoting prices and making sales of said gasoline at prices less than a fair price therefor, but denies that it has done so in accordance with any such understanding or agreement, or that said prices were fixed by any such understanding or agreement; denies that this defendant has caused retailers to refrain from quoting prices or making sales of said gasoline at prices other than those so fixed or at any prices; denies that this defendant has agreed to refuse to sell, furnish, transport, supply or deliver gasoline to any retailer in the Pacific Coast area who refuses to sell all gasoline to consumers at the prices so fixed by defendant corporations as alleged in said petition, or at any prices, and denies that it has in fact refused to sell, furnish, transport, supply or deliver gasoline to any retailer in the Pacific Coast area who refused to sell all gasoline to consumers at the prices so fixed by defendant corporations as alleged in said petition; in this behalf admitting that from time to time this defendant has refused and does refuse to sell gasoline to retailers selling gasoline at prices lower than the prices at which this defendant sells gasoline at retail, or lower than the prices at which gasoline is sold at retail by other retailers purchasing from this defendant and retailing at a reasonable profit, under such circumstances as to interfere seriously with the business of this defendant, but denying that such refusal is in accordance with or due to or influenced by any understanding or agreement with the other defendants herein, or anything other than the unfettered exercise by this defendant of its business judgment in the selection of its own customers."

The Long Agreement

The answer "admits that this defendant, through the medium of the defendant, F. R. Long, has agreed to purchase and has in fact purchased from various of the independent companies from time to time various quantities of gasoline manufactured by said independent companies, but denies that it so purchased large quantities of gasoline, or any quantities in excess of an average of about 1,300,000 gallons per month; denies that this defendant fixed any prices for the sale of gasoline by said independent companies, or any of them, either in the manner stated in said petition, or otherwise, or at all, and alleges that it is without knowledge as to the prices at which said independent companies were able to sell their gasoline to others; denies that said purchase was made on condition that said independent companies, or any of them, should sell, or for the purpose of enabling said independent companies, or any of them, to sell the remainder of the gasoline so manufactured by them, or any portion thereof, at prices fixed as alleged in said petition, or at any prices fixed by this defendant; in this behalf alleges that this defendant in its purchase of said gasoline through said Long as broker reserved the right to discontinue such purchases in the event that any of the independent companies should sell or deliver gasoline in California (a) at retail for less than the average prevailing retail service station price (tax included) published by the major marketing companies at point of delivery, or (b) to resellers or distributors at a differential greater than 5 cents below such retail price, or (c) to commercial accounts at a differential greater than 4 cents below such retail price, except during the term of and under existing written contracts not subject to termination or cancellation by them."

Right Never Exercised

The company "in this behalf further alleges that despite the fact that the independent companies made numerous sales of gasoline in California at prices and on terms as above described during the period of said purchases through the medium of said Long this defendant has never exercised said right so reserved to discontinue such purchases or attempted

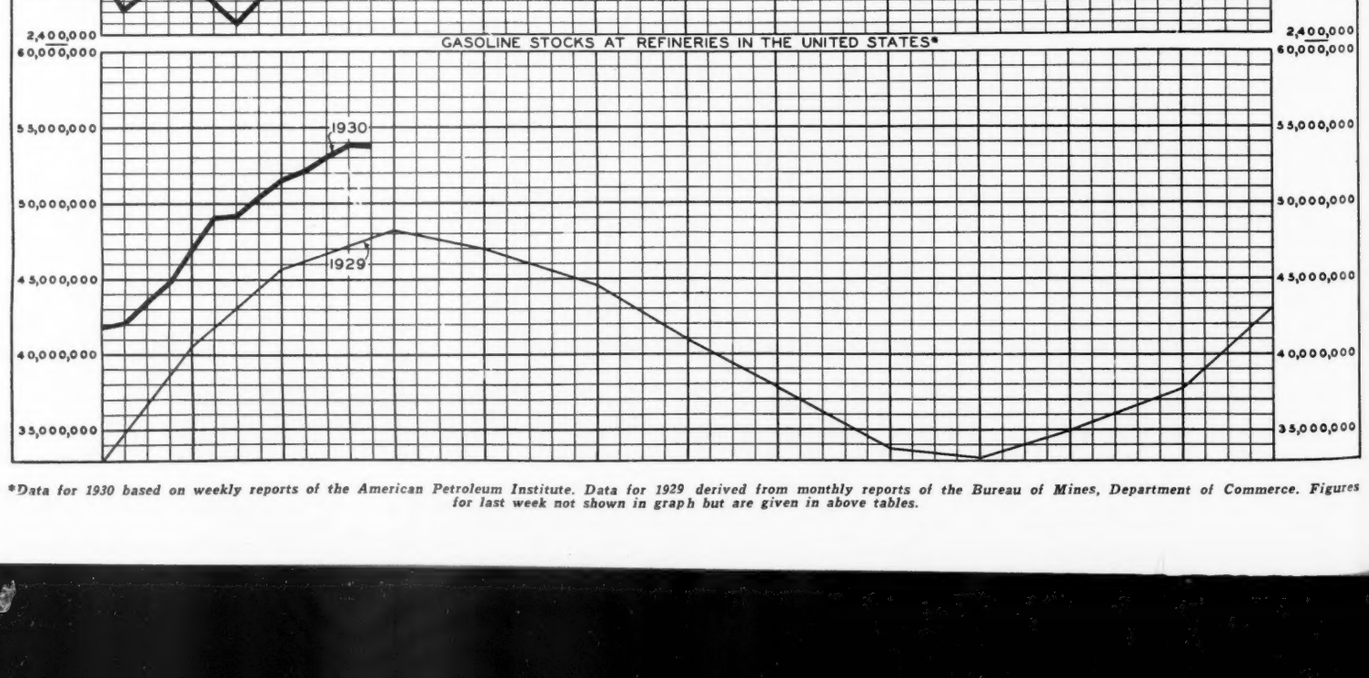
(Continued on Page 144)

A.P.I. WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks—for the week ending March 29 follows:

	(1)	(2)	(3)	(4)
East Coast	100.0	3,120,800	9,550,000	6,314,000
Appalachian	91.0	643,900	1,865,000	668,000
Indiana, Illinois, Kentucky	99.5	2,295,100	8,479,000	3,056,000
Oklahoma, Kansas, Missouri	89.1	2,195,200	4,700,000	3,622,000
Texas	90.4	3,901,500	8,153,000	11,072,000
Louisiana and Arkansas	96.8	1,141,200	2,553,000	2,008,000
Rocky Mountain	93.6	384,500	3,049,000	1,059,000
California	99.3	3,753,300	16,390,000	108,387,000
Total United States	95.6	17,435,500	54,739,000	136,186,000
Total last week	95.5	17,744,400	53,830,000	137,249,000
Texas Gulf Coast	99.4	2,963,900	7,076,000	8,490,000
Louisiana Gulf Coast	100.0	751,700	2,207,000	1,174,000

(1) Per cent refinery capacity represented. (2) Crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



Data for 1930 based on weekly reports of the American Petroleum Institute. Data for 1929 derived from monthly reports of the Bureau of Mines, Department of Commerce. Figures for last week not shown in graph but are given in above tables.

Ideal Bubble Plate in Tower Design

Suggest Modification in Respect to Regulation and Routing of Flow of Reflux Over Plate

By O. C. Brewster
Consulting Engineer, Casper, Wyo.

CHANGES IN BUBBLE PLATE DESIGN

It may be shown mathematically that the commonly accepted "ideal" fractionating plate falls far short in performance of that possible with a slightly modified form of plate. In the example worked out in this paper the conventional "ideal" plate necessitates the use of 45 per cent more fractionating plates to produce a given result than does the modified ideal. The requirements of the modified ideal point out definitely what the trend in bubble plate design should be with respect to the regulation and routing of the flow of reflux over the plate.

In another article, actual bubble plate design will be discussed with particular emphasis on the control of flow and the disposition and arrangement of bubble caps. It will be shown how the concept of this modified ideal plate has influenced design and also how disregard or ignorance of this concept has resulted in elaborate and costly plate construction with lower efficiency than would have been the case had this idea been kept in mind.

In the broad field of engineering, reference to the ideal is a constantly recurring term. The ideal heat engine, boiler, generator, pump and what-not are the every-day tools of the engineer—not that he ever attains ideal performance nor ever builds an ideal piece of machinery, or ever will, but in the thorough understanding of what constitutes the theoretically ideal performance of a given type of operation, he may be guided in his design ever to approach more and more closely to the ultimate of perfection.

Without this conception of the requirements of the ideal, engineering design would be in a chaos of wild goose chasing, each individual plunging off blindly on any side trail that offered success and never being able to predict the results to be obtained. This is the old method of rule of thumb and cut and try, wherein that which worked was good design and any improvements were only made by trying something different, blindly, and seeing whether the Goddess of Luck gave, according to her particular whim that day, a better result or a worse.

In refinery work we are, perforce, obliged to use the latter method in much of our design and operation due to our lack of knowledge of what constitutes the ideal, although rapid strides have been made in the theory of many branches of this complex field.

The art of fractionation, as applied to the refining industry, has gone through a period of drastic change in the last decade. From the age of rerun stills, weird aerial knockout radiators, stone towers and so forth we have emerged into the bubble tower age, or the reflux era. This transformation was due, not to the discovery of a new art, but to the discovery that other industries employing processes involving distillation, notably the alcohol industry, were using an old and rather highly developed art, the fundamental principles of which could easily be applied to the fractionation of petroleum into its several marketable components. This accounts for the speed with which the change was made, since we were not obliged to develop a new art, but merely its application to our specific problems.

We learned from others that the ideal method of separating a complex liquid into groups of components arranged according to boiling points was by counterflow contact between rising vapors and descending reflux. This is now an old story to us and the fractionating column, accomplishing this result, is common refinery equipment.

Ideal Column

We further learned that the ideal column was one in which the number of counterflow contacts was infinite. In such a column any desired degree of separation is secured with a minimum quantity of reflux. Since infinite contact is unattainable by mere man, we learned that we could approach the ideal performance to any desired degree but that we were limited in the degree of approach by the amount of money we were willing to spend for equipment—that is, when the additional investment more than outweighs the advantage in operating cost to be gained by reducing reflux, there is an economic loss in going any further. But we do realize what constitutes the ideal column from the performance point of view and can approximate the ideal from the economic standpoint.

The column itself may be dissected and split up into individual units of contact (of which the ideal column requires an infinite number) and here again we have set up an ideal unit. It is the purpose of this article to show that the unit commonly accepted as the theoretical ideal falls far short, in performance, of a unit of slightly different type which is just as simple in its conception and which, when properly understood by designers of fractionating equipment, very materially affects the design of plant equipment.

The unit of fractionation is almost universally taken as the "plate," connoting an individual pan on which contact occurs between vapor and reflux, such as the usual (and now quite generally used) bubble cap plate, or it may be expanded to include a zone in a packed tower which performs the equivalent function of one actual plate. As the unit has been established as the "plate," an ideal unit, called the "ideal plate," has been set up as the criterion for all actual plate performance and "plate efficiency" is a common term based on the relative performance of an actual plate compared with that of the ideal.

The Ideal Plate

The commonly accepted definition of the ideal plate describes it as one on which the entire body of vapor leaving the plate after contacting the liquid thereon is in equilibrium with the liquid on the plate and overflowing therefrom to the next plate below.

In discussing plate and column performance from this point, it will greatly simplify matters if we consider the column and the plate as performing merely the function of heat interchange, without the confusing element of distillation and condensation entering in. Heat exchange is really the function of the column, distillation and condensation occurring as a result of changing temperatures in the liquid and vapor.

Let us consider the case of a bubble cap plate whose only function is the exchange of heat between a relatively cool nonvolatile liquid and a relatively hot noncondensable and nonabsorbable vapor or gas. Such a plate, provided with a single bubble cap, is shown in Figure 1. L pounds of liquid per unit time are flowing to the plate at some temperature, t_L, where it contacts under hotter vapor, V pounds per unit time, entering at some temperature, t_v. The liquid is heated to the temperature, t'_L and overflows from the plate at the same rate, L, and the vapor is cooled to the temperature, t'_v, and passes from the plate at the same rate, V. Now, from the definition of the commonly accepted ideal plate, if complete thermal equilibrium occurs between liquid and vapor, the temperature of the liquid leaving the plate will be the same as that of the vapor leaving the plate, or,

$$t'_v = t'_L \qquad (1)$$

Furthermore, the quantity of heat absorbed by the liquid will obviously equal the quantity given up by the vapor, or,

$$V(t_v - t'_v)c_v = L(t'_L - t_L)c_L \qquad (2)$$

where c_v and c_L represent the respective specific heats of the vapor and liquid. From these two expressions, t'_v and t'_L may be determined, assuming that the initial temperatures, t_v and t_L, are known.

Concrete Problem

Making a concrete problem, to simplify the rest of the discussion, let

V = 1 pound per second.
t_v = 400° F.
c_v = 0.5.
L = 2 pounds per second.
t_L = 100° F.
and c_L = 0.9.

Then, from Equations 1 and 2,

$t'_v = t'_L = (Vc_vt_v + Lc_Lt_L)/(Vc_v + Lc_L)$
$= 165.2°$ F.

The heat interchange, $H = L(t'_L - t_L)c_L$
$= V(t_v - t'_v)c_v = 117.4$ B.t.u. per second

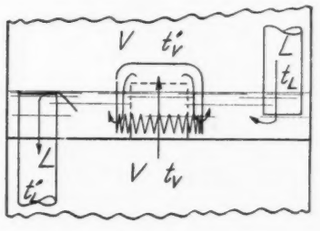


Figure I.

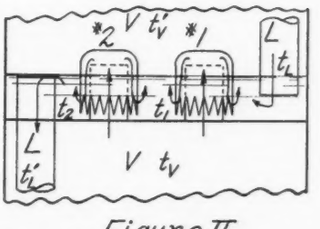


Figure II.

absorbed by the liquid and given up by the vapor.

With an infinite number of such plates arranged to give counterflow of liquid against vapor and the same initial liquid and vapor temperatures, it is quite obvious that the final temperature of the vapor would equal the initial temperature of the liquid, or, $t'_{v\infty} = t_L = 100°$ F. and the total heat absorbed by the vapor would be, $H = V(t_v - t'_{v\infty})c_v = 150$ B.t.u. per second. The final temperature of the liquid would be $t'_{L\infty} = t_L + H/Lc_L = 183.4°$ F.

Thus the maximum possible heat exchange between the vapor and liquid is 150 B.t.u. per second and a single plate of the type commonly called ideal performs 117.4/150 or 79.3 per cent of the maximum possible.

Performance of Plate

Now, let us determine the performance of a plate but slightly modified from the ideal, shown in Figure 2. Here we have two bubble caps and it is assumed that half the vapor bubbles through each and that all of the liquid passes first cap No. 1, coming into equilibrium with the vapor bubbling through that cap, and then passes on to cap No. 2, coming into

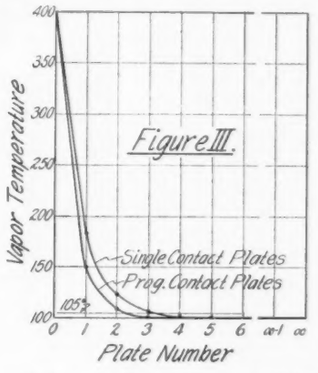


Figure III.

equilibrium with the vapor bubbling through it. At cap No. 1, then, the vapor and liquid both arrive at some temperature, t_1, which is easily determinable.

$t_1 = (.5Vc_vt_v + Lc_Lt_L)/(.5Vc_v + Lc_L)$
$= 136.6°$ F.

The liquid at 136.6° F. then passes on to the second cap and again both vapor and liquid arrive at the same temperature, t_2, which is similarly determined.

$t_2 = (.5Vc_vt_v + Lc_Lt_1)/(.5Vc_v + Lc_L)$
$= 168.7°$ F.

The liquid overflows from the plate at this temperature, 168.7° F. The temperature of the entire body of vapor is, of course, the average of t_1 and t_2, or 152.7° F. The heat interchange in this case is 123.7 B.t.u. per second or 82.5 per cent of the maximum possible with an infinite number of plates as against 79.3 per cent for the ideal plate of common parlance.

Similarly, if we make our plate with four caps which are consecutively contacted with the liquid, the final conditions are:

t'_L (final liquid temperature) = 170.8° F.
t'_v (final vapor temperature) = 145.0° F.

Heat interchange = 127.40 B.t.u. per second or 84.8 per cent of the maximum possible.

With eight points of contact, the final results are:

t'_L (final liquid temperature) = 171.8° F.
t'_v (final vapor temperature) = 142.0° F.

Heat interchange = 129.24 B.t.u. per second or 86.2 per cent of the maximum possible.

Extending this conception on so that we have an infinite number of consecutive contacts on one plate so that the entire body of reflux successively contacts infinitesimal portions of the vapor, we arrive, by integration, at a result which establishes the maximum possible degree of heat interchange attainable on one

(Continued on Page 143)

Petroleum Possibilities in Tennessee

Oil or Gas Has Been Found in 22 Counties, Having Been Produced on a Commercial Scale in 10. Prospective Territory Discussed

By Willard F. Bailey
Assistant Geologist, Tennessee Division of Geology*

Tennessee has attracted considerable interest among oil men during the past 10 or 15 years because numerous wildcat tests in scattered portions of the State have shown the presence of oil and gas in commercial quantities from unusually shallow depths. The oil has proven to be a very high gravity product (38-42° Be.) of paraffin base. Very often considerable gas is found associated with the oil. Continued prospecting has developed several small oil and gas fields in Tennessee, the history and geology of which are very interesting and somewhat puzzling.

The State of Tennessee extends 500 miles east-west from the highest part of the southern Appalachians (elevation 6,642 feet) to the Mississippi River at Memphis (elevation 190 feet). It thus includes several natural physiographic divisions and geologic and structural provinces (see map).

East Tennessee

East Tennessee consists of the Unaka Mountains, held up along the Tennessee-North Carolina boundary by the very resistant crystalline rocks of Cambrian age and older, and the Great Valley of east Tennessee, carved by the Tennessee River and its tributaries into a series of parallel ridges and valleys with strata steeply folded and many times faulted. These sediments of Cambrian and Ordovician ages are so badly crumpled that it can be stated definitely that the chances of oil and gas occurring in paying quantities in the rocks underlying east Tennessee are very small. Numerous wildcat wells have been drilled in this area and often sufficient oil is found in a crevice or cavity to encourage the investors to further drilling, but every test thus far ventured has been a failure.

Cumberland Plateau

West of the Great Valley of east Tennessee, and lying parallel to it, is Cumberland Plateau, an area in Tennessee of approximately 5,400 square miles with an average elevation of 2,000 feet. The plateau is capped by Pennsylvanian sandstones, shales and gravel conglomerates, including several workable beds of coal, which are underlaid by a thick series of Mississippian limestones from which oil and gas are being produced in Scott and Morgan Counties. No oil or gas in wells or seepages has been reported from Pennsylvanian rocks in Tennessee.

The Northern Coal Field includes that part of Cumberland Plateau lying north and east of Crossville, Tenn. At Glenmary, Scott County, several wells drilled in 1916 to 1920 are still producing oil and gas from fractured St. Louis limestone and Newman limestone (Mississippian age) from depths of 1,225 to 1,400 feet. The oil has a paraffin base, dark brown color, and specific gravity of 36° to 38° Be. The structure at Glenmary consists of a long monocline rising to the north and abruptly cut off by an east-west fault of considerable vertical displacement. This faulting undoubtedly aided in fracturing the Mississippian limestones and is thus responsible for the production at Glenmary. The accumulation of oil and gas in the St. Louis limestone seems to depend more on the presence or absence of fissured zones in the massive limestone than on terraced or anticlinal structure. Adjacent wells have found that the limestone may or may not be fractured continuously, and that fissured zones may not occur at the same stratigraphic levels. Considerable wet gas is usually found with the oil, and little water occurs below the top of the St. Louis limestone. The production from this field during 1929 was 2,806.91 bbls., coming from five wells.

The Boone (Bone) Camp Creek[1] oil pool, 4 miles southwest of Glenmary and 3 miles northwest of Sunbright, Morgan County, is located on a structural terrace. The main production of both oil and gas is from a porous limestone horizon about the middle of the Fort Payne formation (Mississippian), about 325 feet below the horizon at Glenmary. A second productive horizon at 1,100 to 1,150 feet is correlated with the "pay" at Glenmary and is probably the contact between the St. Louis and Fredonia limestones. The gas is piped to Sunbright for heating and lighting uses. Twelve wells in this pool produced approximately 13,000 bbls. of 40° Be. crude oil during 1929. No figures are available on the gas production.

Considerable prospecting has been done in other scattered areas in Morgan County during recent years. Some 50 wells have been drilled in the county and several promising areas have been tested. In the southern part of the county considerable gas has been found at depths of 1,000 to 1,400 feet, about 400 feet above the Chattanooga shale. The recent completion of an oil producer which pumped 200 bbls. the first two days opens a new pool 2 miles west of Sunbright and 2½ miles south of the Boone Camp Pool. This well has caused renewed interest in the Morgan County area and on January 15, 1930, seven rigs were at work in scattered parts of the county.

St. Louis Limestone

It is doubtful if conditions are favorable for oil and gas in those parts of Claiborne, Campbell and Anderson Counties which lies on Cumberland Plateau because of considerable faulting of the oil-bearing formations in this area. In Scott, Morgan and Fentress Counties, however, the St. Louis limestone may be expected to furnish oil and gas in paying quantities wherever the rock is generally and uniformly fissured. The dips of the surface rocks in this area are in most places so slight as to make surface structure mapping very difficult, and if highly fissured areas exist in the St. Louis limestone they apparently must be discovered by the drill rather than by surface exploration.

The Pennsylvanian rocks become thinner toward the western part of this area, reducing the depth to the St. Louis limestone to 800 or 900 feet. In Morgan County, the Chattanooga shale has been reached in three wells at depths of 1,635, 1,678 and 1,833 feet, respectively, and is underlaid by red and green limestones of probable Silurian age. The Ordovician formations in this area have not been thoroughly tested. Fractured and porous limestones of Ordovician age which are productive in the northeastern Highland Rim area extend eastward under the west edge of Cumberland Plateau. These formations apparently thin out somewhere under the plateau and are replaced by a new section of Ordovician limestones and sandstones exposed along the eastern edge of the plateau and in the Great Valley of east Tennessee. To test thoroughly the possible producing formations which underlie the northern Cumberland Plateau a well should go to a depth of 3,000 to 3,200 feet, or 1,500 feet below the Chattanooga "black" shale. A deep test in northern Cumberland County started in the Lee formation (Pennsylvanian), drilled through the Chattanooga shale at 1,468-93 feet, and went 1,525 feet into the Ordovician. Shows of oil and gas were found at 1,092 feet, the approximate horizon of the St. Louis limestone, but nothing below the Chattanooga shale.

Southern Coal Field

The Southern Coal Field comprises that area of Cumberland Plateau lying west and south of Crossville, Tenn. The western part of this area may be considered possible oil and gas territory. The St. Louis limestone horizon should be reached at a depth of 800 to 1,700 feet, or 700 to 1,300 feet below the base of the Pennsylvanian sandstones. Drilling should be carried to a depth of 1,500 feet below the Chattanooga shale, which occurs at 1,200 to 2,000 feet. Detailed structure mapping in the areas near Crossville and Monteagle shows the presence of numerous well-defined anticlines. In the eastern part of the plateau the oil-bearing horizons outcrop in Sequatchie Valley and the oil, if any ever existed

(Continued on Page 148)

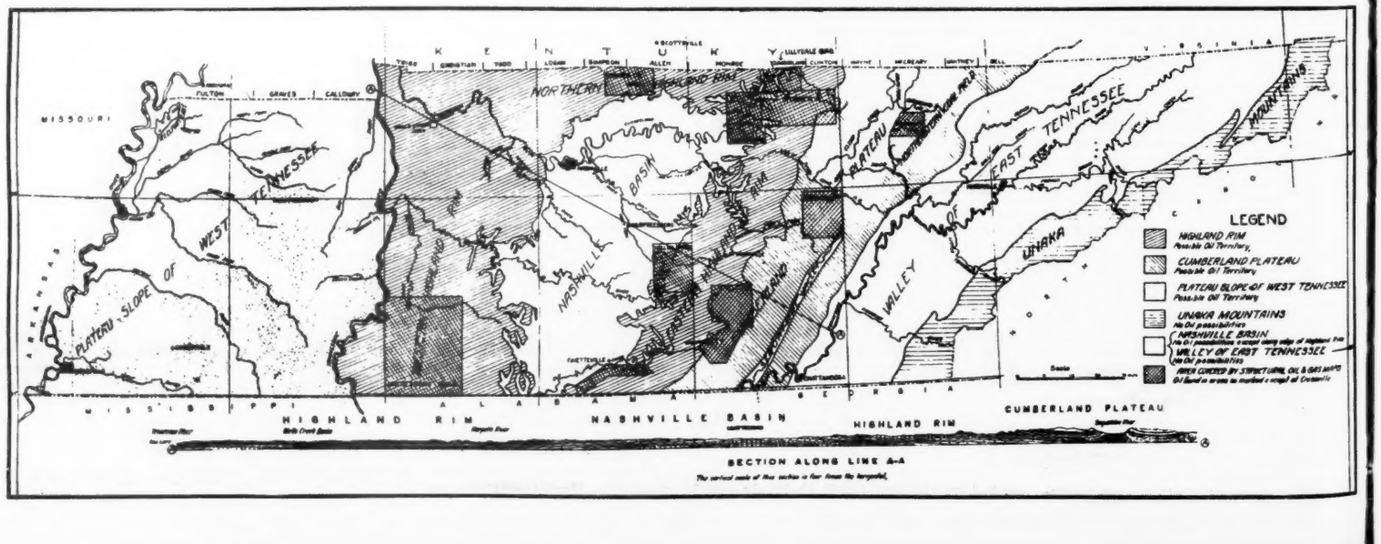
DATA ON WELLS IN THE EASTERN HIGHLAND RIM AREA*

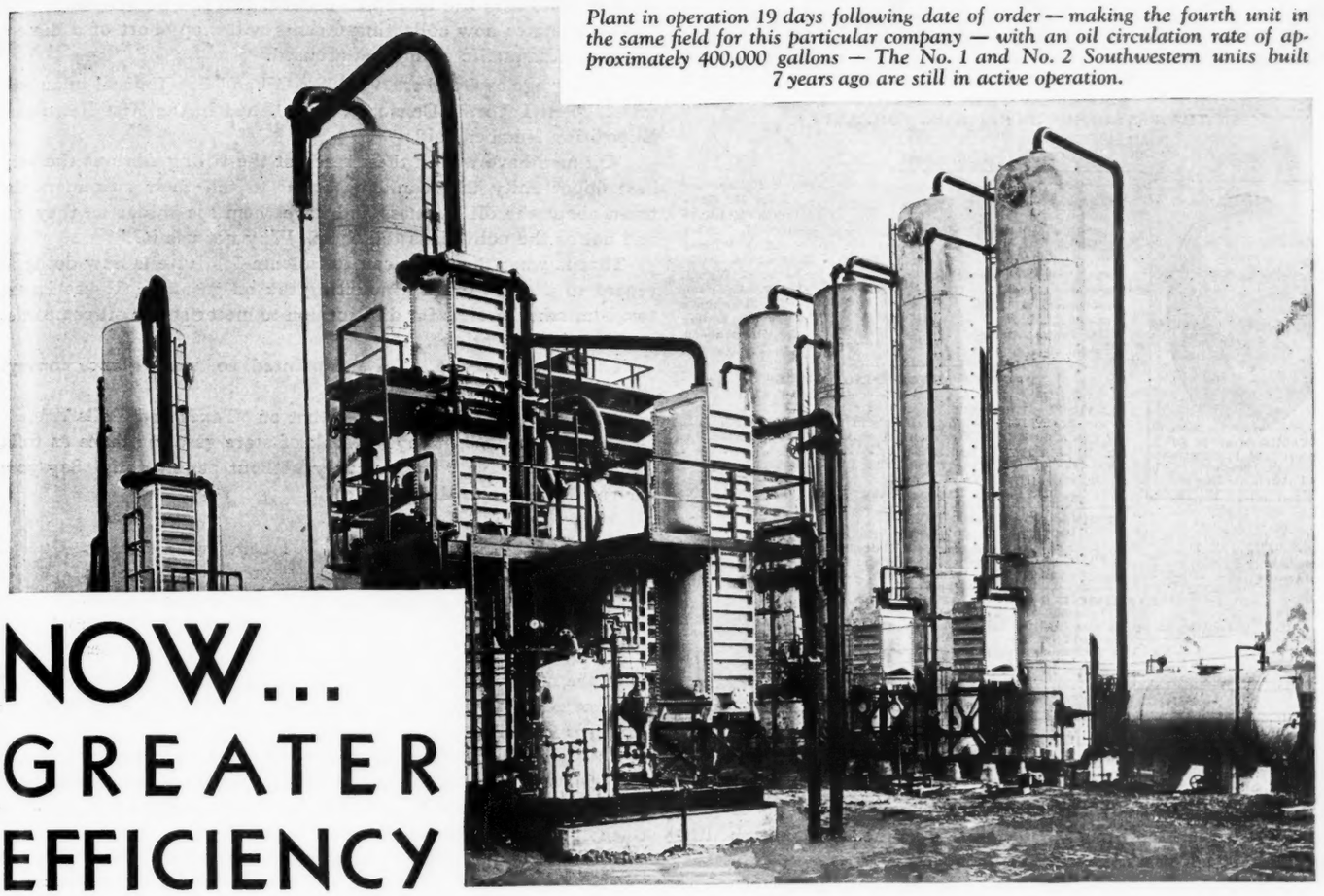
Well and location—	Elev. (feet)	Pencil Cave (feet)	Pay (feet)	Total depth (feet)	Flush prod. (bbls.)
No. 1 J. M. Gray, Peterman Bend	550	312	314	314	500
No. 1 K. Thurman, Peterman Bend	568	334	334–46	348	500
No. 1 B. Langford (McClurkin), Mill Creek	594	317	412–50	463	104
No. 1 Ben Bailey, Mill Creek	607	405	dry	680	dry
No. 7 Lynn, Tinsley's Bottom	586	315	330–351–381–433	459	845
No. 2 Lynn, Tinsley's Bottom	587	325	360–429	429	600
No. 1 Mary Williams, Fox Springs	†97	...	186	228	22
No. 1 Sam Keisling, 3 miles east Celina	542	392	577	577	25
No. 1 Petway Dennis, Willow Grove	654	551	692	728	75
No. 1 Rad Hawkins, 5 miles north Gainesboro	530	212	283	283	100
No. 1 J. C. Long, south Jackson County	516	180	110	440	gas
No. 1 Cinda Sells, Spurrion-Riverton (Holbert Creek)	‡195	748	1,552	1,632	oil
No. 1 F. S. McGee, McMinnville (Warren County)	‡304	674	470	684	gas
No. 1 Jim Bottom, McMinnville (Warren County)	‡280	721	820	845	gas
No. 1 Shipley, Cookville (Putnam County)	‡181	...	424	...	gas
No. 1 H. B. Gulick, McMinnville (Warren County)	‡186	564	828	1,687	gas
	...	...	1,348	...	oil

*Data furnished survey by drillers and contractors. Flush production represents production reported for first 24 hours. †Below black shale. ‡Above black shale.

*Published with the permission of the State geologist.

[1]The name Bone Camp was erroneously used on the United States Geological Survey Atlas, Wartburg Quadrangle, 1886. Residents of the area claim the correct name for this stream is Boone Camp.





Plant in operation 19 days following date of order — making the fourth unit in the same field for this particular company — with an oil circulation rate of approximately 400,000 gallons — The No. 1 and No. 2 Southwestern units built 7 years ago are still in active operation.

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LINES THAT GO CONSTANTLY UP

It is so rare to find automobile advertising making reference to gasoline that a page advertisement in a famous weekly publication featuring the extraordinary growth of gasoline consumption during the past ten years is a refreshing novelty.

"On the chart of American business," it says, "there is a line that goes steadily up. The consumption of gasoline leaps forward by hundreds of millions of gallons every year."

An accompanying diagram illustrated the growth of that demand from 4,250,000,000 gallons in 1920 to more than twice that, or 9,402,000,000 gallons, five years later, and to an estimated 15,666,000,000 gallons during 1929.

All this is familiar, of course, to those in the oil industry, but realized by few of the general public who will see that advertisement. It cannot fail to give the public a better idea of the work the oil industry has been doing.

It suggests a "follow-up" on another line that goes constantly up—the rate of State taxation on gasoline.

The mutual interest of the petroleum and automotive industries in gasoline extends to any handicap that tends to restrict that consumption. The automobile manufacturer is as much interested in having his cars used as the gasoline manufacturer is in having his product consumed in those cars. What effect would there be on the automobile industry if a 25 per cent tax was levied on the sales of all cars?

That is the average sales tax now levied by the States on gasoline—25 per cent of the cost to the consumer less the tax.

And there is no indication it is going to stop at that.

Where the consumption of gasoline, as shown in that advertisement, increased four times in ten years the amount collected in taxes on gasoline has multiplied 100 times.

No state now deigns to levy as little as the original cent-a-gallon tax. Only eight are content for the time being with a 2-cent tax. nine with 3 cents, 19 are collecting 4 cents a gallon, nine a nickel a gallon, three 6 cents, and one 3½ cents.

The $4,700,000 collected in 1921 had grown to $450,000,000 in 1929 and it is estimated will exceed $550,000,000 and may reach $600,000,000 this year.

It is highly improbable that the 19 states now collecting 4 cents a gallon will long be content with foregoing the additional cent and making it a round nickel, or that the 2 or 3 cents states will be slow in following the example. Indeed, there is no assurance that the three states now collecting 6 cents will stop short of a dime a gallon unless public opinion is aroused.

As long ago as October, 1923, The Oil and Gas Journal in an editorial, "Tell It to the Consumer", published in the first Petroleum Exposition Number, said:

"Oil men have within their reach at the filling stations the very best opportunity that could be asked to tell their customers the truth about the oil business and have them see things as they are and not as the politicians tell them. Why not use it?"

That is what the American Petroleum Institute is now doing in regard to the continually mounting tax on gasoline. It has issued two admirable leaflets for distribution to motorists by oil companies at their filling stations.

They are attractive, brief and pointed, so that a glance conveys the facts in the case.

One, especially, is very good, that on "Taxes and Tolls".

"Few motorists", it says, "think of state gasoline taxes as tolls, but you can't drive your car today without paying tolls. Say your car runs 12 miles to the gallon:

Taxes	Tolls
2 cents	1 cent every 6 miles
3 cents	1 cent every 4 miles
4 cents	1 cent every 3 miles
5 cents	1 cent every 2.4 miles
6 cents	1 cent every 2 miles

If the motorist can be got to thinking about his gasoline tax in terms of cents per miles it will not be long until he lets his legislature hear from him.

Politicians used to ride into office on their clamor about the high cost of gasoline until The Oil Industry's Answer of 1924 punctured that falsehood. We may yet see politicians run out of office because of the high cost of gasoline taxation.

It is only a question of educating the motoring public.

The American Petroleum Institute has furnished the ammunition. The oil industry should use it at the filling stations.

More than that the automotive industry might very well make it a part of its voluminous advertising, the cost of operating a car is an important factor in sales talk. If legislators keep on increasing that cost it is bound to have a reaction on car sales, probably already has, particularly in limiting the two-car family expansion, since the gasoline bill for two cars is a doubling of that operating expense.

It is a matter that might very properly be put up to the Automobile Chamber of Commerce and also the motorists' associations. They have a common interest with the oil industry in averting any further increase in the inequable taxation now levied on motorists.

Some of the leading states are now collecting in gasoline taxes as much revenue as met their total expenses for state government not so many years ago. Pennsylvania is now collecting $35,000,000 a year in gasoline taxes, Ohio $36,000,000 and California $37,500,000.

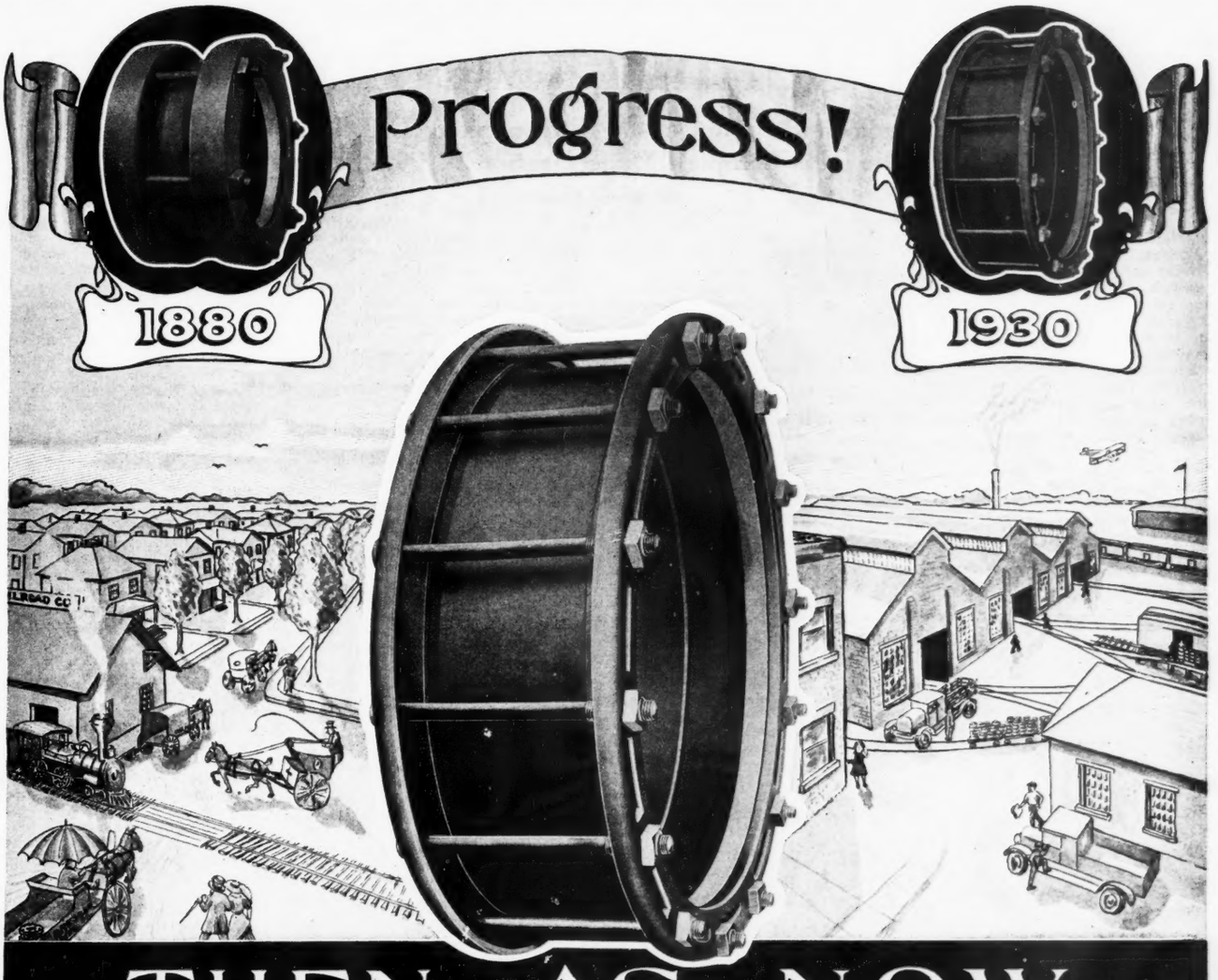
Recently a proposition was put forward in Louisiana to levy an increased gasoline tax to finance a bond issue for general expenditures that had nothing to do with highways. As the revenue from gasoline taxation grows there will be an increasing temptation to apply it to general purposes with the effect that the motorist will be paying a higher tax than others for ordinary state expenses.

It is coming to that now unless something is done about it.

The oil industry, as the American Petroleum Institute said in the resolution adopted March 27, 1929, "does not oppose the levying of a gasoline tax where all the revenue derived therefrom is used solely for highway construction and maintenance purposes, but opposes the fixing of a rate per gallon tax beyond reasonable bounds, or where the rate the consumer must pay is out of equable proportion to the price of the gasoline."

That rate has already reached 25 per cent, a rate out of all reasonable proportion to any sales tax on any other commodity of general use, with every indication that it will be continually increased as the greed of the politicians grows, unless checked by a united and aggressive popular campaign against further exactions.

Right now before the motoring season opens is the time to begin.



THEN AS NOW

DRESSER COUPLINGS *Dominate!*

1880 S.R. DRESSER MANUFACTURING CO. 1930
BRADFORD, PENNA.

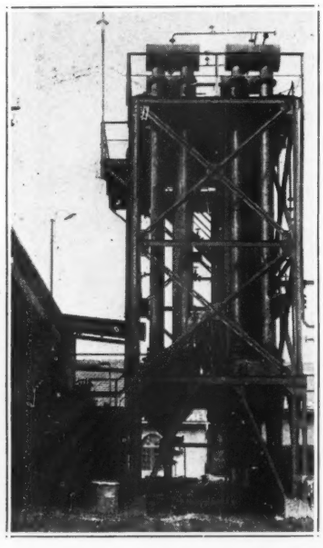
Improved Refining Methods in Italy

Expansion Program of the Raffineria di Olii Minerali S.A. Includes Complete Modernization of Fiume Refinery

By Antonio Cavallaro
Engineer Raffineria di Olii Minerali, S. A.

The "Raffineria di Olii Minerali, Societa Anonima" is at present the largest oil refinery in Italy. It is the industrial section of the Azienda Generale Italiana Petroli (Agip), Rome, a new oil corporation entirely controlled by the Italian Government. However, the Fiume refinery has its own organization, its own board of directors and acts quite independently from the "Agip."

The original plant was built over 40 years ago for manufacturing lamp oil, but modern facilities were added from time to time so now it is equipped with the most modern equipment and may be classified as a complete refinery. Its marketing activities are divided into two branches, that which handles the domestic sale of all grades of lubricating oils, gasoline and kerosene, and the other handles the purchase and sale of crude oil which is imported from Russian fields



Continuous treating equipment at the Raffineria di Olii Minerali S. A. at Fiume, Italy, for handling the Holmes-Manley cracked gasoline and the straightrun gasoline from Grozny crude.

and destined to territories served by Fiume as the closest seaport. These foreign territories include part of Jugoslavia, Austria, Czechoslovakia and Hungary.

Several refineries including those at Fanto and Apollo of Czecholslovakia receive their crude supply through the Fiume refinery. The Raffineria di Olii Minerali has a very favorable location for this traffic since it is near the seaport, its crude storage tanks being only a few hundred meters from the port.

Several railroads connect the plant with the entire Italian rail system. The refinery is also equipped with regular loading racks located along the refinery tracks. The inside traffic of the tank cars is satisfactorily accomplished with ordinary Ford tractors.

Operation of Plant

The refinery manufactures motor gasoline, aviation gasoline, kerosene, white wax, motor oils known with the trademark "Italoil," engine oils, cylinder oils, spindle oils, transmission oils and several grades of grease. The refinery includes the following departments: Crude stills, steam stills with fractionating towers, vacuum stills, coke stills, wax plant (chilling and sweating sections), cracking plant, continuous treating plant for treating gasoline, grease and lubricating plant (compounding and treating), barrelhouse and the testing and experimental laboratory. A brief description will be given below of some of the above plants:

Crude Stills

The crude stills include a battery of six shell stills divided into three units, each composed of one fired still and a side still serving as a heat exchanger. These are coal fired. These stills are also used for rerunning the semifinished products.

The crude oil is charged first to the heat exchanger and maintained in continuous circulation by a steam pump while it is heated by the oil vapors coming from the fired still. The hot oil passes through the coils located in the heat exchanger and three streams are taken off this exchanger. The distillates and the vapors from the coils of the exchanger are cooled in a condenser box and then pass through the lookboxes to the rundown tanks.

In firing the still, the gases of combustion are not in direct contact with the bottom of the still, as is the case with the ordinary type of shell still. This kind of still has two corrugated iron flues running from end to end within the still and located at about one-fourth the distance from the base of the shell to the top.

The firebox, where either fuel oil or pulverized coal may be burned, is set in front of the still. The hot gases pass first through the flues inside the still to the back of the still (1), then along the outside to the front (2), and finally along the bottom to the heat exchanger or to the stack (3). The stills are connected so they may be operated continuously, but the present practice is to run batch. (See drawing No. 1.)

The crude oil from the heat exchanger, where all water and basic sediment have been settled out and a small percentage of light gasoline has been distilled off, is charged to the still and is run to about 40 per cent bottoms. Crude naphtha, kerosene distillate, a light gas oil and a part of the paraffin distillate (the refinery is running Grozny crude oil which is of the mixed base type) are distilled off.

The hot residuum is charged to the vacuum stills and stripped to a heavy asphalt, which in turn, due to unfavorable market conditions, is run to the coke stills (two batteries, each of eight small coke stills) and run to dry coke.

The overhead distillate from the vacuum stills, from the coke stills and the distillate from the crude stills from the light gas oil fraction on, was, until a few months ago, dewaxed and after rerunning several times, various grades of light and medium lubricating oils were made. However, since the installation of the Holmes-Manley cracking unit, all these distillates, after having been partly dewaxed, are used for cracking stock. The crude naphtha is steam stilled to yield 190 degrees C.E.P. motor gasoline and then treated. The kerosene distillate after rerunning is also treated.

Vacuum Stills

One battery of four vacuum stills is now in use. This was built in 1924 and was designed by the Brunn-Konigsfelder Maschinen Fabrik under the Steinschneider patents.

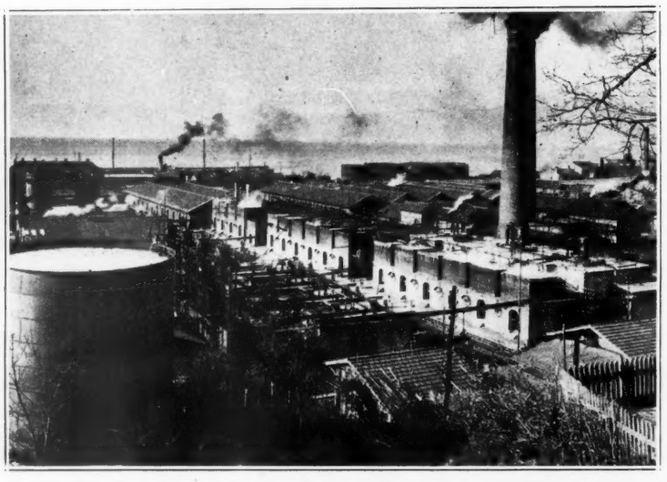
The stills are cylindrical in shape with one inside corrugated iron gas flue. The firebox is set in front of the still and the furnace gases travel in the same manner as in the crude stills previously explained. The stills are each 8 feet 8 inches in diameter and 30 feet long. The hot residuum from the crude still is directly charged to the vacuum stills.

All the wax distillates, the highly viscous fractions contained in the topped Grozny crude are removed at comparatively low temperatures (not over 300° C.) and make an excellent charging stock for the Holmes-Manley battery. The stills are connected so as to run continuously. The four stills are set at a different elevation, 1 foot difference being between one still and the next one. These vacuum stills are used partly for making lub oils and partly for reducing the crude to a heavy tar.

A special grade of marine oil is made by means of these vacuum stills by reducing to the desired viscosity and flash, in the presence of fine clay, unrefined distillates imported from Russia.

From each still, two streams are obtained. An absolute pressure of 15 to 40 millimeters may be easily maintained by means of a steam vacuum pump. The topped crude may be stripped to as low as 75 per cent by volume.

The heavy tar is directly charged to the coke stills and run to dry coke. The overhead distillate from the coke stills is also charged to the cracking plant. The operation of the vacuum stills is diagrammatically shown in the included sketch.



General view of the distilling equipment at the Raffineria di Olii Minerali S. A. at Fiume, Italy.

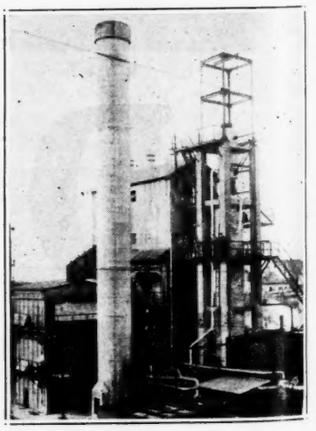
Cracking Plant

The Raffineria di Olii Minerali recently completed the erection of one Holmes-Manley cracking unit. Its operations started in November, 1929. Grozny paraffin distillate is used as charging stock and is obtained as described previously by reducing crude to coke through atmospheric and vacuum distillation.

This unit is of the latest design and is the first Holmes-Manley unit to be installed in Europe. The construction work has been carried out by the men of the Raffineria Olii Minerali under the supervision of one of its engineers, the material (piping, valves, pumps, structural steel, etc.) was furnished by the Brunn-Konigsfelder Maschinen Fabrik, an engineering concern of Czechoslovakia.

The cracking chambers, the bubble tower and the reflux exchanger were made by the Borsig Co., manufacturers of pressure vessels in Europe. The process of welding employed for this equipment is the so-called water gas hammer method. Upon completion of the construction work, a pressure test of 85 atmospheres using warm oil was applied to the stills, bubble tower and reflux exchanger and all showed a perfect test. In order to reduce the rate of corrosion, the chambers were made of molybdenum steel.

We are now charging about 1,200-1,300 bbls. a day, but the rate could be raised to 1,600-1,700 bbls. The yield ranges between 35 to 40 per cent of 195° C. endpoint gasoline, with a specific gravity of 72-73, ready for chemical treatment. A typical run is reported below.



Holmes-Manley unit recently completed at the Fiume refinery of the Raffineria di Olii Minerali S. A.

Charging stock: Grozny distillate mixed with cycle stock, the blend having a specific gravity of .87 and a mean boiling point of 325° C.:

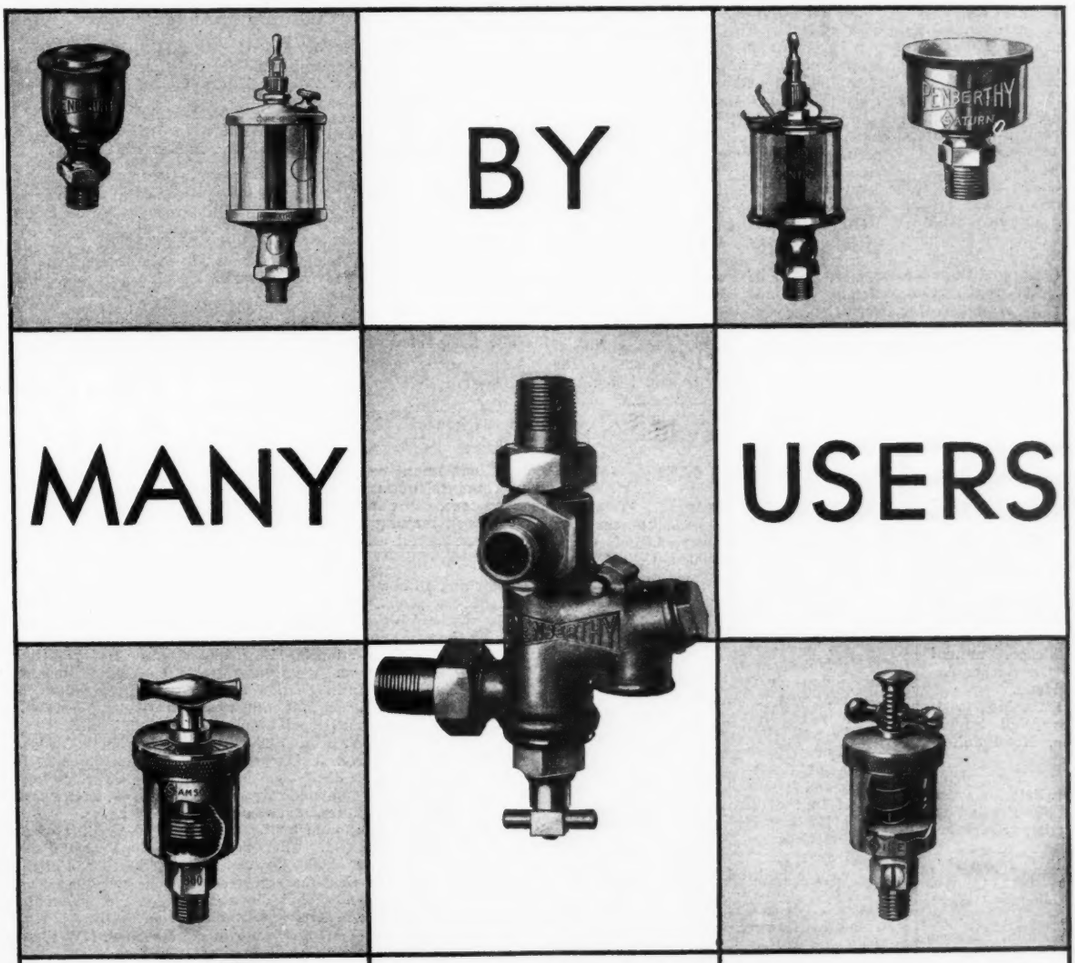
	%
195° C. endpoint gasoline (sp. gr. 722)	36.37
Cycle gas oil	41.43
Cycle fuel oil (sp. gr. 1,000)	20.53
Coke (by weight)	0.90
Coke, gas and loss	1.67

Note—Hours under pressure, 286. Yields: Total net charge, 14,500 bls.

The gasoline as it leaves the accumu-

(Continued on Page 159)

RECOMMENDED BY MANY USERS



THESE Penberthy Products are universally used throughout the oil industry because they are consistently recommended by operating men who have long been familiar with the Penberthy record for dependable service.

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PENBERTHY PRODUCTS

PENBERTHY INJECTOR COMPANY

ESTABLISHED IN 1886

DETROIT

CANADIAN PLANT WINDSOR, ONT.

A.P.I. REFINING DIVISION COMMITTEE ENDORSES THE SIX-DAY PROGRAM

NEW YORK, Apr. 1.—A resolution adopted by the General Committee, Division of Refining, American Petroleum Institute, at New York, March 31, 1930, follows:

"Whereas, on March 4, 1930, the Federal Oil Conservation Board, composed of the Secretary of the Interior, the Secretary of War, the Secretary of the Navy, and the Secretary of Commerce, stated publicly that 'there is coming to be too much gasoline and its manufacture is proceeding unchecked,' and announced that it had written to the governors of the three great oil-producing states, namely, Texas, Oklahoma and California, suggesting that they call attention to the danger of waste that lies in increasing gasoline stocks. The board's letter reads as follows:

" 'The Federal Oil Conservation Board would like to call your attention to the existing situation in regard to the refining of crude oil, since it seems desirable to point out to the refiners of the country the advantages that would accrue from Sunday closing. At the present time the stocks are higher than they have been since 1927 while the domestic demand is only up to the level of 1928. In other words, the increased efficiency in the cracking of oil, combined with the seven-day week, is increasing gasoline stocks to a level where there will be a large element of waste, therefore, the Federal Oil Conservation Board wishes to suggest that the refining of petroleum could well be brought to the normal basis of a six-day week. If you feel that you can be helpful in calling this to the attention of those interested in your State, it would be appreciated.'

"Whereas, the American Petroleum Institute has repeatedly declared its adherence to the principle of conservation of the petroleum supply and the prevention of its waste,

"Therefore, be it resolved that the General Committee of the Division of Refining of the Institute calls to the attention of those interested in the action of the Federal Oil Conservation Board, endorses such action as being timely, wise and in the interest of conservation, concurs in the principles expressed by the board and urges the individual interested units in the petroleum industry to heed and conform to the principles enunciated by said board."

OIL MAN'S CALENDAR

April 5-9—New York, Hoboken, N. J., and Washington, D. C., fiftieth anniversay celebration, American Society of Mechanical Engineers.

April 7—Pittsburgh, Pa., meeting and election, Eastern district, Division of Production, American Petroleum Institute, William Penn Hotel.

April 5-13—Detroit, All American Aircraft Show.

April 7-11—Atlanta Ga., seventy-ninth meeting, American Chemical Society.

April 7-12—Chicago, annual meeting, American Oil Burner Association, Stevens Hotel.

April 8-9—St. Louis, Mo., meeting, Oil and Gas Well Supply Traffic Association, Hotel Jefferson.

April 10—Midland, Tex., spring meeting, American Petroleum Institute, Division of Production, Southwestern district, Sharbauer Hotel.

April 15-17—Norman, Okla., Gas Measurement Short Course, University of Oklahoma College of Engineering.

April 17-18—Wichita, Kans., Kansas Oil Men's Association, Broadview Hotel.

April 23-24—Cleveland, Ohio, semiannual meeting, National Petroleum Association, Cleveland Hotel.

May 5-8—New Orleans, La., convention, Natural Gas Department, American Gas Association, Roosevelt Hotel.

May 12-15—Atlantic City, N. J., annual meeting, National Fire Protection Association, Haddon Hall.

May 19-20—Tulsa, Okla., National Oil Scouts Association of America, Mayo Hotel.

May 20-22—Tulsa, Okla., annual meeting, Natural Gasoline Association of America, Mayo Hotel.

May 21-23—Los Angeles, Calif., National Foreign Trade Conference.

May 25-29—French Lick Springs, Ind., summer meeting, Society of Automotive Engineers.

June 16-25—Berlin, Germany, World Power Conference.

June 23-26—San Francisco, Calif., convention, American Railway Association.

June 23-27—Atlantic City, N. J., annual meeting, American Society for Testing Materials.

Late Fields

GULF COAST

HOUSTON, Tex., Apr. 1.—Two new producers have been added to the new Esperson Field of western Liberty County. Cranfill & Reynolds Co.'s No. 2 Moores Bluff was completed late Monday flowing an estimated 350 bbls. of pipe line oil from sand at a total depth of 2,315 feet. It extends the field a location to the southwest. Yount Lee Oil Co.'s No. 2 Moores Bluff was put on the pump for 90 bbls. net oil with 27 per cent water, from sand at 3,347 feet. This is 150 feet southeast of the discovery well, the first well drilled in that direction. It had been drilled to a total depth of 6,689 feet where drill stem stuck and it was sidetracked to the sand found in the discovery well.

At Barbers Hill, Mills Bennett Production Co.'s No. 1 Higgins, in the deep sand area on the southeast side of the dome, was bailed in flowing 2,200 bbls. of oil at 5,362 feet. In the same area, Sinclair Oil & Gas Co.'s No. 5 Wilburn came in flowing 1,100 bbls. at 5,216 feet, and McAlbert Oil Co.'s No. 1 Higgins 760 bbls. net oil at 5,368 feet.

At Pierce Junction, south of Houston, Navarro Oil Co. and the Texas Exploration Co.'s No. 18 Dooley, on the east side of the dome, was completed flowing 1,200 bbls. net oil from sand at 4,691 feet.

The Texas Company's No. 5 Botany Bay, Port Barre, St. Landry Parish, was bailed in flowing an estimated 1,500 bbls. from sandy shale at 3,673 feet. This is the seventh producing well completed on this dome opened for production during 1929.

OKLAHOMA

The new well of the Indian Territory Illuminating Oil Co., No. 1 M. Sudik, NE cor. SW, Section 31-11-2w, which has been blowing wild for almost a week was shut in Monday, March 31, but it broke loose the same afternoon and was still blowing wild on Tuesday. The company has saved 25,945 bbls. of oil from the well by pumping that amount into storage tanks. About 20,000 bbls. of this oil was saved in 48 hours.

Sinclair Oil & Gas Co.'s No. 1 School Land No. 67, NE cor. SE, Section 36-11-3w, was completed Monday, March 31, and made 5,007 bbls. in 12 hours from the Simpson sand at 6,603-32 feet. The well extends production a half mile west. The well which is a 10,000-bbl. producer resulted in Sinclair Oil & Gas Co. staking 13 new locations in the south end of the pool. Four locations were made on the Vincl, in Section 31-11-2w, four on the same company's School Land No. 54, in the NE Section 36-11-3w, and two new locations on the company's School Land No. 67, in Section 36-11-3w, and a new location a half mile west on the same company's School Land No. 69, in the NE cor. SW, Section 36-11-3w.

Skelly Oil Co.'s No. 3 Hoopes, NE cor. NW NE, Section 31-11-2w, blew in Monday, March 31, and made 322 bbls. in 1 hour and 15 minutes, and was then shut in. The oil was found in the Simpson sand at 6,305-85 feet. The gas volume was estimated at 75,000,000 feet.

Other tests in the field that are ready to be completed are now shut down on account of the Indian Territory Illuminating Oil Co.'s No. 1 M. Sudik blowing wild, making it impossible to have fires burning. Shell Petroleum Corp.'s No. 3 Petty has a showing of gas at a total depth of 6,394 feet, and is shut down. Indian Territory Illuminating Oil Co.'s No. 2 Mollman, NW cor. SE SE, Section 23-11-3w, has drilled the cement plugs at a total depth of 6,409 feet. The oil was found in sand at 6,389-95 feet, where the test made several small flows before being shut in.

Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW, Section 14-26-24w, Harper County, is the deepest drilling in the State. The wildcat test was drilling with rotary tools at 7,910 feet, Tuesday, April 1, at 7 a.m.

KANSAS

Mid-Kansas Oil & Gas Co.'s No. 1 Pitt, C SW SE, Section 2-19-2w, McPherson County, Kansas, had chat at 2,924 feet, where it made 2,500,000 feet of gas. The test was drilled deeper and at 2,965-72 feet it was spraying from 5 to 10 bbls. of oil an hour. It was shut down to erect stock tanks. The new well is 6 miles north of the Ritz Pool, and in an area where some gas wells have been producing for several years.

Shell Petroleum Corp.'s No. 1 Stollie, SW cor. NE SW, Section 11-26-2, Sedgwick County, east of the Greenwich townsite, got a hole full of oil in the Viola lime at 3,165-68 feet. The company was landing casing on top of the oil showing and was preparing to pump the well without making a swabbing test.

E. W. Marland, Inc.'s No. 1 Moorehouse, SW NW cor, Section 3-21-3w, in the Voshell Pool, in McPherson County, which extended the pool a half mile north, swabbed 588 bbls. on the gauge of March 31.

Barnsdall Oil Co.'s No. 1, SE cor. SW SE, Section 4-21-3w, was drilled deeper to the Silicious lime, which was found at 3,346-47 feet, where it swabbed 760 bbls. in 24 hours.

The finding of the deeper pay horizon in the Voshell Pool, and the new well in the north end of the pool, has resulted in some new locations. Prairie Oil & Gas Co.'s No. 1 Krehbiel, NE cor. SE, Section 4-21-3w; Gypsy Oil Co.'s No. 2 Krehbiel, NW cor. SW SW, Section 3-21-3w; No. 3 Krehbiel, NW cor. SW, Section 3-21-3w; No. 4 Krehbiel, SE cor. SW, Section 3-21-3w.

MICHIGAN

First estimates of production of the new central Michigan wildcat brought in last week near the village of Clare place its probable daily flow at about 500 bbls.

This estimate is based on a flow of 100 bbls. in 45 minutes made Saturday after the well was shut in for about 24 hours. No further tests are available.

The well gives greater promise than ever of opening a new pool. It was drilled by the Millon, Pollock and Wittmer interests on the Ann Bowman lease, formerly the Doherty farm, located SE NE, Section 27-16n-4w, Vernon Township, Isabella County. It is more than 10 miles north of the proven Mount Pleasant Field.

RED COULEE PRODUCER

CHATHAM, Ontario, Mar. 31.—On the Montana end of the international Red Coulee structure, Monalta Oil Co.'s No. 2 Buckley, Section 1-37-4w, is reported in the Sunburst sand at 2,408 feet, with crude oil 1,500 feet in the hole, and still rising. This is the fifth producing well on the Red Coulee structure.

High Spots in Field News

CALIFORNIA
California production declining. Santa Fe Springs definitely slipping.

MONTANA
Fifth producing well on Red Coulee structure had 1,500 feet of oil in hole and rising.

EAST CENTRAL TEXAS
Now 16 producers in Van Pool, Van Zandt County, with production estimated at 15,000 bbls.

ROCKY MOUNTAIN AREA
Jal well making 50,000,000 feet of gas. Utah tests resuming. Iles Dome disappointment. Salt Creek test in Amsden sand.

NORTH TEXAS AND PANHANDLE
Semiwildcat, southwest of LeFors, sprays 30 bbls. Extension producer between Huggins and Bulcher Pools, Cooke County.

KANSAS
Important deep pay in Voshell Pool. Silicious lime found more productive than upper, Simpson, sand. Oil in Barton County.

WEST TEXAS
Largest gasser in Yates Pool, Pecos County, estimated 80,000,000 feet. Loving County getting play. New locations in Ector County.

SOUTHWEST TEXAS
Darst Creek has 42,000-bbl. well, biggest completed in Southwest Texas. Extends field 2,000 feet northward. Empire gets 5,500-bbl. well.

GULF COAST
Esperson Field considered one of most promising. Two additional producers reported. Good wells in Barbers Hill. Mykawa wildcat sprays oil.

MICHIGAN
Wildcat near Clare, 10 miles north of Mount Pleasant Field, now estimated at 500 bbls., based on flow of 100 bbls. in 45 minutes after shut in for 24 hours.

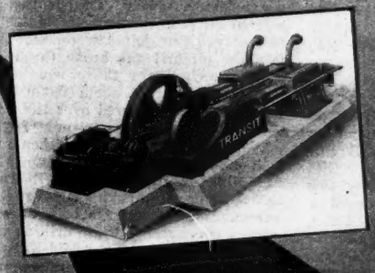
OKLAHOMA
Curtailment extended three months. Production kept down to market requirements, but potential production increases. Big well running wild. Sinclair company extends production one-half mile west in Oklahoma City Pool with well making 10,000 bbls.

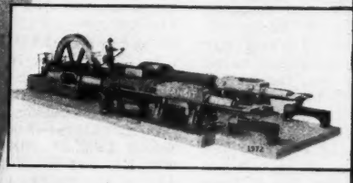
TRANSIT

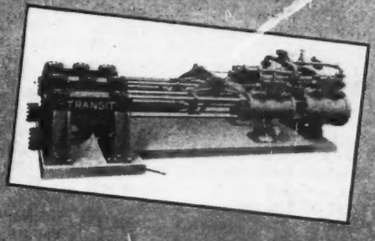
Reciprocating

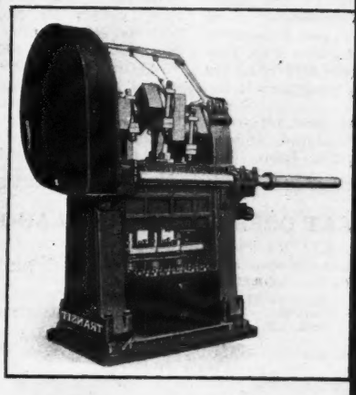
HOT OIL PUMPS

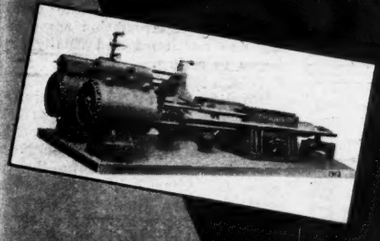
Any Type
Any Size
For All Conditions
of Service

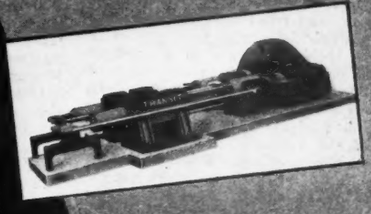


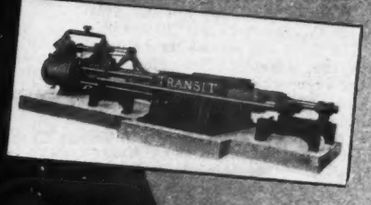


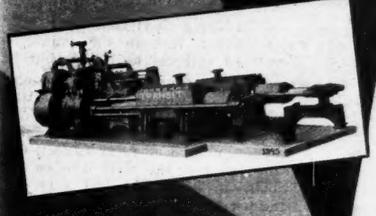


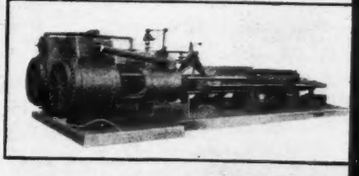


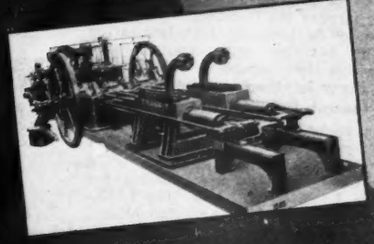


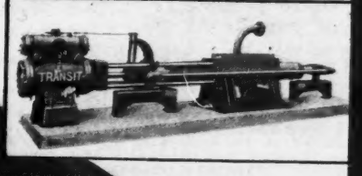












TIONAL
TRANSIT
ing & Machine Co.
OIL CITY, PA.

Curtailment Extended Three Months

Oklahoma Production Kept Down to Market Requirements, but Potential Production Increases. Big Well Runs Wild

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

One of the important events in Oklahoma during the week was the Oklahoma Corporation Commission's approval of the curtailment plan for the flush areas in the State for the next 90 days.

New wells in the Oklahoma City Pool continue to make new records in production. Notwithstanding these enormous gushers, the State's production for the seven days ending March 29 averaged only 614,500 bbls. daily. The Seminole area was quiet with few completions and a decline in production. The rest of the State has curtailed operations.

The Oklahoma Corporation Commission on March 28 ordered the extension of proration until June 1. The order contains practically the same provisions as that issued last January in effect until April 1. The Oklahoma City Pool, the most prolific pool in the State was ordered to curtail its output at least 75 per cent. The order allows the operators to produce a maximum of 25 per cent of the potential of the wells allowed to produce. The wells beginning April 3 will be allowed to flow 16⅔ per cent of their potential. The method of producing the wells will be unchanged, with eight classes of wells, of which each class will be allowed to flow 48 hours out of each 12 days, instead of 36 hours out of 12 days.

The increased allowed output gives the operators some relief after April 3 when the pipe line companies have agreed to increase their shipments to a total of 102,000 bbls. a day from the total of 82,000 bbls. The increase in runs from the field will be met without raising the curtailment of the field above 16⅔ per cent of the potential production daily. The increase as of April 3 will be met by the increased requirements which are expected in the spring. Under the new agreement the Prairie Pipe Line Co., Oklahoma Pipe Line Co. and Empire Pipe Line Co. plan to run 20,000 bbls. each. Magnolia Pipe Line Co. and Tidal Pipe Line Co. expect to take 10,000 bbls. each. The Tidal will receive its deliveries through the Magnolia. The Shell Pipe Line Co. expects to handle 6,000 bbls. a day, which will include about 2,500 bbls. of outside crude. Sinclair Pipe Line Co. expects to take about 15,000 bbls. a day. Indian Territory Illuminating Oil Co. can handle about 5,000 bbls. daily through tank cars. It is estimated the total tank car and pipe line capacity of the field is about 240,000 bbls. a day. Some express the opinion the refiners would like to handle more of the Oklahoma City crude, because of its generally high lubricating qualities, but they cannot take more at the present time because of the demands for delivery in other parts of the State.

Present Potential Operations

It was estimated the present daily market requirements for oil produced in Oklahoma is 600,000 bbls. a day, while the estimated potential production for April is 1,488,100 bbls., for May 1,715,400 bbls. and for June 1,869,700 bbls.

The potential production of the State is now in excess of the market demands and also greatly exceeds the transportation and storage facilities, and if not curtailed and prorated, would actually be wasted by going into earthen storage. The Oklahoma Corporation Commission finds that the potential production now exceeds the current demand in excess of 888,000 bbls. a day for the present month. For the month of May the potential production was estimated to be 1,715,000 bbls. with a probable demand of less than 700,000 bbls. a day. The month of June the potential production as now indicated will be in excess of 1,869,000 bbls. with the demand remaining approximately the same as the previous month.

The proration plans for the other parts of Oklahoma were as follows: New areas to be opened were ordered curtailed 75 per cent of potential. A 66⅔ per cent curtailment was ordered in East Earlsboro Pool, and a 30 per cent curtailment in the balance of Greater Seminole area, and in Logan County, Allen, Sasakwa, St. Louis, Asher and Konowa Pools.

Gigantic Well Runs Wild

Indian Territory Illuminating Oil Co.'s No. 1 M. Sudik, NE cor. SW, Section 36-11-3w, is estimated to be one of the largest, if not the largest, well ever completed in the State of Oklahoma. The well was blowing wild and presented one of most difficult problems Oklahoma City operators have had. It is located in the south end of the pool and is producing from sand at a total depth of 6,470 feet. When the test first blew in it produced dry gas, but it drilled itself deeper and began spraying oil, some of which was carried by the wind for several miles. It is estimated the well was flowing between 2,000 and 2,500 bbls. an hour of high gravity crude oil and 200,000,000 feet of gas.

The loss to the owning company and royalty owners in crude oil that is not recoverable will be great, but a large quantity was recovered by the hasty building of earthen reservoirs or ponds and the damming of the creek into which much of the oil had found its way. Batteries of pumps have been recovering the oil from the dams and ponds and it has been going into tanks.

Dwelling houses and field offices in the vicinity were abandoned and all nearby drilling tests shut down. The well blew in while the crew was pulling the tools from the hole and 20 joints of drill pipe was thrown out by the tremendous volume of oil and gas and remains twisted in the derrick. The well was partly shut in Sunday evening.

Wirt Franklin Petroleum Corp.'s No. 1 Eacock, in the north end of the pool, was completed as a Simpson sand producer at a total depth of 6,500 feet. The well made 613 bbls. the first hour and 525 bbls. the second hour, and 6,838 bbls. in 12 hours.

Tom Slick Oil Co.'s No. 2 Glidden, SE cor. SW SE, Section 13-11-3w, in the center of the pool was drilled deeper to a total depth of 6,665 feet, and is to be given a 60-quart shot. The well is an old producer that went dead a short while ago and was drilled deeper. It is one of the few wells in the pool that have been shot.

New Locations

New locations in the field were in the extreme southeast and the northwest. Prairie Oil & Gas Co. and others have cellar dug for No. 2 Darks, SW cor. NW SW, Section 32-11-2w. O. W. Stauffer and others made a location for No. 1 in the SW cor. NW NW, Section 2-11-3w, in the north end of the edge of the city limits. It is located in the Armourdale addition. Sinclair Oil & Gas Co. has announced two new locations for School Land-54, for No. 6 in SE cor. NW NE and No. 7 in the NE cor. SE NE, Section 36-11-3w. Indian Territory Illuminating Oil Co. has announced a new location for No. 1 School Land, NE cor. NW, Section 36-11-3w, and for No. 2 S. Peterson, SE cor. SW, Section 25-11-3w. Cromwell-Franklin Oil Co. and others have staked another location for No. 24 Trosper Park in the NE cor. SW, Section 12-11-3w.

The production in the north end of the field was extended by Heenan & Coe's No. 1 Cook-Cunningham, NW cor. SW NE SW, Section 1-11-3w. It was completed after reaching a total depth of 6,407 feet in the Simpson sand, making 6,904 bbls. in eight and one-half hours. The well extended the production in the pool almost a half mile north, bringing the producing area a short distance from the city limits.

Another Big Well

Coline Oil Co.'s No. 7 Warren, NE cor. SW SW, Section 18-11-2w, on the east side of the Oklahoma City Pool, was shut in, blowing wild for several days, after workmen had tried to bring the well under control. It was estimated to be a 15,000 to 20,000-bbl. oil well and the gas volume was estimated at 50,000,000 feet. The production was believed to be coming from a crevice in the Arbuckle lime, which is blamed for the blowout. The test was drilling at 6,350 feet, early in the week and suddenly the circulation of fluid was lost. After the rotary mud failed to return to the surface, additional pumps were installed, which did not help. The drilling crew started to pull the tools from the hole, and only a few joints were removed before the oil and gas broke through and began flowing over the crown block. It was estimated that about 5,000 bbls. of crude oil was scattered over the ground, some of it more than a mile from the test. All precautions were taken to prevent a fire and dikes thrown up to catch the oil. The pay in the well was believed to be running higher than in the surrounding wells. This is not the first crevice encountered while drilling in this part of the field. In the Mid-Kansas Oil & Gas Co.'s No. 1 Browning, SW cor. NW, Section 18-11-2w, a quarter of a mile north, the drill pipe suddenly dropped several feet while drilling in limestone and circulation stopped. Drilling was continued and finally the mud began to return.

Pair of Gassers

Sinclair Oil & Gas Co. and Amerada Petroleum Corp. completed a pair of gas wells during the week. No. 8 Kinter, SE cor., Section 30-11-2w, on the southeast edge of the pool, was the first to blow in. After bailing the hole down part way the fluid blew out the remainder of the mud, and the hole cleaned itself in about five minutes. The well was later shut in after being estimated at 100,000,000 feet of gas. No. 7 Kinter, SW cor. SE SE, Section 30-11-2w, started flowing a short time after No. 8 Kinter, but a leak in the connections developed and the well was shut in.

Developments in Seminole

J. H. Gwin's No. 1, in Block 10, Earlsboro Townsite, in Section 8-9-5, Pottawatomie County, found oil in the Simpson sand at 4,322-42 feet. On a production test the well was swabbing 30 bbls. an hour. The test may be drilled deeper to the Wilcox sand, where other wells in the townsite have found production. South of the townsite, Magnolia Petroleum Co.'s No. 1 Grounds, NE cor. NW, Section 23-9-5, was plugged back to 4,227 feet to shut the water off. The test was given a 20-quart shot and swabbed 161 bbls. of oil with no water showing in three hours. Gypsy Oil Co.'s No. 1 Carbitcher, SW cor. SE, Section 14-9-5, in the South Earlsboro Pool, was also plugged back to 4,239 feet from 4,243 feet, and later swabbed 190 bbls. in 24 hours, no water showing.

Hopes of extending production in the Bowlegs area vanished when the Independent Oil & Gas Co.'s No. 1 Harjo, NE cor. SE NW, Section 30-8-7, Seminole County, was a failure. The test had a hole full of water in the Wilcox sand

(Continued on Page 70)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Rigging up standard tools 4,660 ft.

BECKHAM COUNTY

Ray Johnson and J. R. Cuniff's No. 1 Brower, C NW Sec. 29-10-22w	Rig.
Kay et al's No. 1 Martin, C E half E half NW Sec. 32-8-24w	T. D. 3,335 ft.; P. B. 1,990 ft.; C. O.
Producers Exploration Co.'s No. 1 Seidell, SE cor. SW SW Sec. 17-9-22w	Shut down 2,402 ft.
Carson et al's No. 1 Danby, SW cor. SE NE Sec. 20-8-22w	Shut down 1,575 ft.

BLAINE COUNTY

Lowen et al's No. 1 Unknown, NW cor. SW NW Sec. 17-16-11w	Spudded and shut down.
Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 12-19-10w	Shut down 2,935 ft.

CADDO COUNTY

Abernathy & Brown's No. 1 Horton, SE cor. S.c. 8-6-13w	Shut down 596 ft.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w	Shut down 3,394 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1	Drlg. 4,740 ft.
Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w	Shut down 3,130 ft.
Phillips Petroleum and T. B. Slick's No. 1 Sudick, NE cor. NE Sec. 8-10-2w	Wilcox 7,716-20 ft.; water; plugging back.

COAL COUNTY

W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e	Drlg. 1,840 ft.

COMANCHE COUNTY

Pelwine Oil's No. 1 Howe, C SE SW Sec. 33-1-9w	Drlg. 2,130 ft.
G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	Drlg. 1,350 ft.
Green et al's No. 1 Wilson, C NE SW Sec. 14-1-12w	Shut down 4,055 ft.

GARFIELD COUNTY

Shell Petroleum Corp.'s No. 1 Loomis, C NW NW Sec. 32-23-4w	Drlg. 4,235 ft.
Continental and Barnsdall's No. 1 Brown, CNL SW Sec. 10-20-4w	Drlg. 5,690 ft.
E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	Shut down 5,566 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w	Shut down 100 ft.
J. M. Henry et al's No. 1 Abraham, SE cor. NW Sec. 4-5-8w	Rig.

(Continued on Page 102)

Carterville Has Seven New Producers

Total Initial Yield of Wells Is 2,665 Bbls. Roy's Wildcat in De Soto Parish Running 1,374 Bbls. Through Three-Fourths Inch Choke

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Mar. 31.—Except for R. O. Roy's wildcat producer in DeSoto Parish getting into production, the last week was largely Carterville's, that area having seven producers with a total initial of 2,665 bbls. The remainder of the division's 19 completions were scattered in Caddo, Monroe and Richland for the most part with one in Sabine, one in Paola County, Texas, and a wildcat in Pope County, Arkansas.

Roy's well, No. 1-E Farmer, Section 5-13-13, was turned into the line connecting with Standard Pipe Line Co.'s Oklahoma-Baton Rouge main and on a 24-hour gauge ran 1,374 bbls. through a 3¾-inch choke. It was completed with an estimated production of 2,500 bbls. with drill stem still in the hole. The oil is dark green, 38.7 gravity, viscosity at 50 seconds, 96 Saybolt, pour test 0, sulphur .46. It works out in refinery run 37.5 per cent 58.1 gravity, 425 endpoint, gasoline containing 0.2 per cent sulphur. Fifteen per cent is 41.7 gravity kerosene with .085 sulphur. Forty per cent is 32.2 gas oil, viscosity 58 at 100 degrees, and a 75 pour test. The 5½ per cent residuum is 10.1 gravity, viscosity 58.6 at 122 degrees and 95 pour test.

In addition to his No. 1 Lee in Section 33-14-13, Roy has location in the NW NW, Section 36-15-13, for No. 1 R. A. Nelson on his Frierson block, 7 miles northeast of the producer. Loring Oil Co., formerly Benedum & Trees Oil Co. is deepening No. 1 Johnson, Section 7-11-13, 8 miles south of Mansfield, completed early this month at 2,865 feet as a 12,859,560-foot gas well at 960 pounds.

One of the largest trades in acreage surrounding Roy's producer is that of the Amerada Petroleum Corp. which is understood to have paid $25,000 cash and $10,000 out of the first oil for a half interest in 240 acres, being the NW and the W half NE, Section 33-14-13, about a mile northeast of the producer.

Second Large Trade

The second trade of large proportions in Carterville proven and semiproven land since the present development began last fall was closed Friday, when the Arkansas Fuel Oil Co., oil producing subsidiary of the Arkansas Natural Gas Corp., bought all the Muslow Oil Co.'s holdings in Townships 22 and 23, Ranges 11 and 12. What it paid for the properties is not given out but is understood to have been $500,000. The properties consist of 827 acres of proven and semiproven land with six wells producing 1,000 bbls. daily, two others due for completion within the next week or ten days and three more drilling. Plans for development of the properties by the new owners, if any, beyond such activities as developments and circumstances may warrant in the course of ordinary exploitation have not been revealed except that the company will build a gasoline plant, but even in this plans have not gone so far as to determine the capacity, type of equipment, etc.

Carterville's best well was The Texas Company's No. 4 Wilkinson in the NW cor., Section 31-23-11, flowing 825 bbls. at a total depth of 3,162 feet with sand from 3,136 feet. H. L. Hunt's No. 6 Peyton, NE SE, Section 25-23-12, was next with 600 bbls. from 13 feet of sand at a total depth of 3,150 feet. Then came The Texas Company's No. 3 Wilkinson, NW NW, Section 31-23-11, with 450 bbls. from 15 feet of broken sand at a total depth of 3,141 feet; H. L. Hunt's No. 4 Peyton, Section 25-23-12, 300 bbls. from 12 feet of sand at a total depth of 3,160 feet; Muslow Oil Co.'s No. 2-B Kilgore, Section 31-23-11, 225 bbls. from 17 feet of broken sand at a total depth of 3,129 feet, and No. B-3 in the same lease and section, 250 bbls. from 16 feet of broken sand at a total depth 3,148 feet and No. 1-C Kilgore, same section, 15 bbls. from 3,167 feet.

Production Rises

Runs from Roy's wildcat producer in the Holly district of DeSoto Parish, the "comeback" of wells in Zwolle, whose failure last week cut that district's runs to 2,540 bbls., and a bulge of 1,500 bbls. in runs from the Sarepta-Carterville district, served to raise daily average runs from the field in the Shreveport division 4,555 bbls. to a total of 101,905 bbls. Louisiana runs of 43,325 bbls. showed an increase of 4,660 bbls. but a decline of 105 bbls. contributed to by all but one of the Arkansas producing areas, Stephens, brought the net gain to the figure stated. The new DeSoto producing district made its initial appearance with a daily average run of 1,635 bbls., runs from all areas in the division for the week being:

NORTH LOUISIANA	
Caddo, light	10,115
Caddo, heavy	2,705
Homer	3,610
Haynesville	4,600
DeSoto-Red River	3,120
Elm Grove	450
Bellevue	640
Cotton Valley	2,310
Urania	5,345
Sarepta-Carterville	4,215
Pleasant Hill	735
Zwolle	3,845
Holly	1,635
Total North Louisiana	43,325
Week ending March 22	38,665
Increase	4,660
ARKANSAS	
El Dorado	3,980
Smackover, light	5,310
Smackover, heavy	41,110
Stephens	965
Nevada County	1,070
Lisbon	1,025
Champagnolle	1,900
Bradley	80
Mount Holly	140
Total Arkansas	58,580
Week ending March 22	58,685
Decrease	105
Both states	101,905
Week ending March 22	97,350
Increase	4,555

Shot Fails to Help

Muslow's No. 3 Peyton, NW SW, Section 30-23-11, bailed dry at 3,149 feet and was given a light shot that doesn't seem to have helped matters and is waiting orders at a total depth 3,175 feet.

The only completion in Sabine Parish was in the old Pleasant Hill district where Arkansas Fuel Oil Co. completed No. 4 Horne, Section 33-10-12, flowing 150 bbls. from 3,229 feet. All the wells in the Zwolle district that went dead last week about the time W. G. Gray completed No. 1 Bolin in Section 31-8-12, making 250 bbls. from 2,405 feet are back on production, this well making 163 bbls. on the last gauge.

Loring Oil Co.'s No. 1-A Bowman-Hicks, the discovery well, was the last to get back on and where it was making 1,600 bbls. when it went dead nearly two weeks ago it shows 2,981 bbls. on the last 24-hour gauge, but with it is about 12 per cent salt water.

The pool ran 5,059 bbls. from nine producers on the last 24-hour gauge. Loring Oil Co.'s No. 2-A Bowman-Hicks, Section 3-7-12, a quarter-mile south of the discovery well, with which the company has been working for the last two or three weeks trying to make a producer, is standing 280 feet in oil from 2,725 feet and will be left alone for another week to see what happens. Bailing and deepening have failed to make any change in the original show so far.

No. 3 Bowman-Hicks, Section 34-8-12, a half mile east of the discovery, made a 50-bbl. head while drilling in with cable tools at a total depth of 2,357 feet. D. H. Riddick's No. 1 Scretchfield, Section 18-9-12, tested salt water at 2,315 feet and is drilling again at 2,350 feet. A little over 2 miles north of Zwolle production, J. C. McDaniels and others have made location for another wildcat, No. 1 Darby, in the SE cor., Section 16-8-12.

Expect Two Producers

Bridges-Clark Oil Co. expect to get two wildcat producers southeast of Pleasant Hill production. No. 1 Gay, NE NW, Section 3-9-12, is expected to be a better gas well than it is now if the company can kill the 12,500,000 feet of gas it made from 3,276 feet and set liner to stop it blowing shale. No. 1 McWilliams is arranging to test two feet of sand showing oil at 3,175-77 feet at a total depth of 3,227 feet with broken lime and shale from 3,177 feet.

Triangle Drilling Co. is reported to have had a show of oil and gas in No. 1 Hardy, Section 18-19-16, a Caddo Parish wildcat on the Texas line north of the Greenwood gas area, in a foot of sand at 1,726 feet and is setting 8-inch. Calatex Oil & Gas Co.'s No. 1 Taylor Trosper, Section 7-16-16, in the old Bethany gas district southwest of Greenwood, which has been inactive for several years, turned out to be one of the best gassers recently completed in the border gas fields, gauging 23,688,000 feet of gas

(Continued on Page 105)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA
AVOYELLES PARISH

Company, farm and location—	Remarks—
R. E. Tippett's No. 1 Chateline, NE NE, Sec. 34-1n-3e	Began drlg. Mar. 14; cmtd. 15½-in. 40 ft.

BOSSIER PARISH

Neil & Lanier's No. 1 Biedenharn, SE cor., Sec. 23-21-14	W.O.S.R; 980 ft. oil in hole; T.D. 998 ft; arranging to re-test at 998 ft.
S. P. Lanier's No. 1 Le Rosen, 300 ft. S, 1,000 ft. W, NE cor., Sec. 26-21-14	Derrick.
H. I. Morgan's No. 3 Wetherbee, 4,443 ft. N, 1,120 ft. W, SE cor., Sec. 21-19-11	Drlg. 2,076 ft.
Walker et als' No. 1 Antrim, NW cor. SE, Sec. 28-22-13	S.D. 3,184 ft.

CADDO PARISH

Magnolia Pet. Co.'s No. 1 Swann, 330 ft. N, 380 ft. W, SE cor. NE SW, Sec. 16-21-14	D.S. test 954 ft; C.D. 6 joints S. W; coring 1,002 ft.
L. B. Mawk's No. 1 Swann, 440 ft. N, 200 ft. E, SW cor., Sec. 23-21-14	Began drlg. Mar. 21; cmtd. 10-in. 100 ft; drlg. 350 ft.
R. W. Norton's No. 1 Hill, 630 ft. N, 1,260 ft. W, SE cor. NE, Sec. 33-23-16	D.S. test 8-ft. sand 4,479 ft; S.W; S.D. 4,496 ft.
I. N. Pharis, trustee's No. 1 Oden, NE cor. SE NE, Sec. 16-19-14	S.D. 2,322 ft; topped sand at 2,396 ft; set 6⅝-in; T.D. 2,409 ft.
C. W. Robinson's No. 1 Wilson, 990 ft. S, 330 ft. W, NE cor. SE, Sec. 2-15-16	Drlg. gumbo 2,070 ft.
Triangle Drlg. Co.'s No. 1 Hardy et als, 660 ft. N, 660 ft. W, SE cor. fractional Sec. 18-19-16	Claim show oil and gas; 1 ft. sand; cmtng. 8-in. 1,726 ft.

CATAHOULA PARISH

Lochnager Pet. Co.'s No. 1 Taliaferro, 572 ft. E, 396 ft. S. C, Sec. 26-9-6	S.D. 900 ft.

CLAIBORNE PARISH

El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7	S.D. 2,240 ft.

(Continued on Page 114)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA
BOSSIER PARISH—BELLEVUE

Company, farm and location—	Remarks—
R. L. Crook's No. 12 Larkin, 200 ft. N, 200 ft. E, SW cor., Sec. 14-19-11	Derrick.

BOSSIER PARISH—CARTERVILLE

Arkansas Fuel Oil Co.'s No. 2 Bollinger, 330 ft. S, 330 Ft. W NE cor. SW SW, Sec. 25-23-11	Began drlg. Mar. 18; cmtd. 10-in. 200 ft; drlg. 2,227 ft.
Ark. Fuel Oil Co.'s No. 3 Bollinger, 1,024 ft. S, 375 ft. W, NE cor. Lot 26, Sec. 38-23-12	Rig up.
Ark. Fuel Oil Co.'s No. 4 Bollinger, 330 ft. N, 330 ft. W, SE cor. Lot 14, Sec. 28-23-11	Rig up.
Bahan & Bahan's No. 1 G. W. May, 660 ft. S, 660 ft. W NE, cor., Sec. 26-23-12	Plugged back 3,180-2,970 ft; waiting cmt. to set.
Bahan & Bahan's No. 1 Floyd Pleasant, 150 ft. N, 150 ft. W, C, Sec. 25-23-12	Rig up.
E. W. Bateman's No. 1 Bollinger, 200 ft. S, 200 ft. E, NW cor., Sec. 38-23-11	Rig up.
E. W. Bateman's No. 2 Bollinger, 200 ft. S, 200 ft. W, NE cor., Lot 29, Sec. 38-23-11	Location.
Del.-La. Dev. Co.'s No. 6 Bolinger, 330 ft. S, 220 ft. W, NW cor. Lot 17, in Lot 16, Sec. 31-23-11	Drlg. 1,650 ft.
Askew & Goodman's No. Roberson, 330 ft. S, 282 ft. W, NE cor. SW SW, Sec. 25-23-11	Began drlg. Mar. 18; cmtd. 10-in. 245 ft; drlg. 800 ft.
Greenwood Prod. Co.'s No. 1 Bollinger, 1,980 ft. N, 1,150 ft. E, SW cor. SE, Sec. 36-23-12	O.W.D.D. 3,071 ft.; rigging up.
Goodman-Johnson's No. 1 Martin, 330 ft. S, 330 ft. E, NW cor. SE, Sec. 26-23-12	W.O.S.R; T.D. 3,169 ft.
Lee Kinnebrew's No. 1 Garnett, 200 ft. S, 200 ft. W, NE cor. SW NW, Sec. 36-23-12	Cored 2 ft. sand; no show; arranging to deepen; 3,142 ft.
Eylers Oil & Gas Co.'s No. 1 Wise, 330 ft. S, 330 ft. W NE cor., Sec. 35-23-11	Began drlg. Mar. 22; cmtd. 10-in. 385 ft.
Haynes Bros.' No. 1 Martin, Sec. 26-23-12	Began drlg. Mar. 23; cmtd. 10-in. 200 ft; S.D. repairing 760 ft.

(Continued on Page 116)

Important Deep Pay in Voshell Pool

Silicious Lime Found to Be More Productive Than the Upper, Simpson, Sand. Oil in Barton County

By W. A. Spinney
Staff Correspondent, Kansas Fields

Increased production in McPherson County, Kansas, resulted from the deepening of wells in the Voshell Pool to the Silicious lime. Western Kansas was again in the limelight with another wildcat well in Barton County. The new well is the first producer ever found in that county. It is the thirty-ninth county in the State to produce oil.

The State's total production declined in the week ending March 29 approximately 2,300 bbls. a day. The daily average for the seven days was 114,500 bbls. The new pay horizon in the Voshell Pool is expected to increase the State's production the coming week.

A new oil horizon was found in the Voshell Pool. The deeper pay is the Silicious lime, and several of the old producing wells have been deepened and have increased their production. The pool is believed to be capable of producing more than 15,000 bbls. a day.

The Derby Oil Co.'s No. 8 Stuckey, SE cor. NE SE, Section 9-21-3w, Voshell Pool, was completed for 1,839 bbls. in Silicious lime at 3,389-3,423 feet. The well swabbed 160 bbls. the first two hours from a total depth of 3,415 feet, and was later drilled deeper. The Silicious lime was from 3,389 to 3,415 feet. It was later drilled 2 feet deeper and increased its production to 425 bbls. in 12 hours from a total depth of 3,421 feet. The production was made by swabbing and the fluid could not be lowered 500 feet off bottom. It was again drilled 2 feet deeper to 3,423 feet, and made 1,839 bbls. in 24 hours, swabbing. The well was originally completed in the Simpson sand at a total depth of 3,357 feet. The well later caught fire and was shut down because of the destruction of the rig and all equipment. It was the first producer in the pool to flow, and it was with great difficulty the flames were extinguished, as the well was averaging about 88 bbls. an hour before the fire.

Two other wells on the lease were drilling deeper, Nos. 6 and 7 Stuckey, and each was giving indications of developing into a better well. This deeper pay horizon may result in a new drilling campaign in the pool. The Shell Petroleum Corp. has the offset lease to the south and it was expected to start work at once deepening its producing wells.

The Derby Oil Co. drilled its No. 6 Voshell, SE cor. NW SE, Section 9-21-3w, deeper, and it made 375 bbls. in five hours from a total depth of 3,411 feet. Same company's No. 7 Voshell, SW cor. NE SE, Section 9-21-3w, was also drilled deeper to a total depth of 3,407 feet, but no gauge was made.

McBride's No. 2 Voshell, SE cor NE NE, Section 9-21-3w, was drilled deeper to 3,365-68 feet, where it swabbed 450 bbls. in four hours, with no water. The well had been making 200 bbls. in 24 hours before being drilled deeper.

Empire Oil & Refining Co.'s No. 3 Voshell, SW cor. SE NE, Section 9-21-3w, made 935 bbls. in 24 hours from the Silicious lime at 3,389-94 feet.

It is the opinion of some geologists that the producing horizon of the Silicious lime may not cover as large an area as the Simpson sand has in the Voshell Pool, and the decline may be sharper as lime gives up its production faster than a sand does.

Oil in Barton County

A new pool may have been found in the extreme northeast corner of Barton County, where the Prairie Oil & Gas Co.'s No. 1 Davidson, in Section 5-16-11w, found oil at 3,314-35 feet. Oil rose 1,700 feet in the hole in a few hours and it was estimated to be a 75-bbl. well. The oil was found in the Gorham horizon, a sandy lime. The new well is located about 30 miles north of the Schurr Pool in Rice County, and about 8 miles east of the Sellans Pool, in Russell County. The showing in Barton County is one of the important developments in the western half of the State, opening an entirely new producing area. The test was drilled on a block of 10,000 acres with a favorable geological report. Several other major companies have adjoining acreage in the vicinity, the Shell Petroleum Corp. has 1,600 acres; E. W. Marland, Inc., a block of 5,000 acres to the southwest, and the Tulsa Oil Co., which was recently sold to the Standard Oil Co. of Kansas, has a block adjoining that of the Prairie Oil & Gas Co. If the test develops a pool it will be the first in Barton County.

Showing in Stafford County

A showing of oil was found in a wildcat test in Stafford County, the test being Gibson and others' No. 1 Mueller, in Section 11-23-14w, about 7 miles northwest of St. John, which found the oil showing in the chat at 3,865-80 feet. The well was drilled to a total depth of 3,893 feet, and casing was being underreamed to the top of the chat.

Showings in Edwards County

In the Lewis Field in Edwards County, Barnsdall Oil Co.'s No. 1 McCarty, NW cor. NE, Section 31-25-17w, an offset to the British American Oil Co.'s discovery well in the Lewis Field, had a showing of oil at 4,547 feet. The test was shut down to standardize. It is expected to be 10 days or longer before the test will resume drilling operations. Six miles southeast of the Lewis Pool, Skelly Oil Co.'s No. 1 Johnson, NE cor. SW, Section 21-26-17w, another wildcat, was showing gas at 4,545 feet. The test was drilling deeper at 4,635 feet, with no further increase in gas or oil showing.

Another wildcat test in Elk County was showing oil. The test being drilled by the National Refining Co., its No. 1 Shambaugh, in Section 21-28-9, had a showing of oil and water at 2,565-70 feet in the top of the lime. The test was drilling deeper at 2,625 feet in lime.

The wildcat well of Slick, Pryor & Lockhart and others, No. 1 Peasel, NW cor., Section 33-31-1w, Sumner County, which has been producing about 75 bbls. a day pinched in, from the chat at 3,651-68 feet, was drilling deeper at 4,035 feet in shale. The test expects to reach the Simpson sand in a few days.

C. B. Davis and others' No. 1 Van Arsdale, in Section 14-27-1w, on the west edge of Wichita, Sedgwick County, found water in the Viola lime at 3,565 feet, and the hole was full of water from the Wilcox sand at 3,573-87 feet. The test was being abandoned as a failure.

The Shell Petroleum Corp.'s No. 1 Southwestern College, in Section 2-25-1w, Sedgwick County, in the Curry Pool, west of Wichita, was drilled a foot deeper to a total depth of 3,405 feet, and swabbed 51 bbls. of oil and 940 bbls. of water in 16 hours. The source of the water has not been definitely determined. Some believe it may be coming from behind the casing. It appeared to increase when the test was drilled deeper.

Aladdin Petroleum Corp.'s No. 1 Jones, SE cor. NE NW, Section 36-24-10, Greenwood County, a west extension to the Wiggins Pool, had Bartlesville sand at 1,896-1,922 feet, where it was shot, and was cleaning out. The test was expected to make a commercial well.

In Cowley County

The announcement of a new wildcat location in Cowley County was made by the Prairie Oil & Gas Co. and others for No. 1 Ewers, in Section 31-31-6, a mile from production in the Burden district. Another semiwildcat location was made by E. B. Shawver and others for No. 1 Seal, SE cor. NE, Section 2-30-4, near the Butler-Cowley County line. In the Burden area, Mid-Kansas Oil & Gas Co.'s No. 1 Harris was shut down at 3,451 feet and same company's No. 2 Martin, in Section 21-31-6, was expected to drill into the gas sand which it had reached at 2,200 feet. Lewis Production Co.'s No. 2 Hill in Section 20-31-6, Cowley County, was drilling in sand at 2,912 feet with 400 feet of oil in the hole. The test was swabbing and drilling deeper in the Bartlesville sand which was topped at 2,868 feet.

Wilcox Oil & Gas Co. and others' No. 1 McPheeters, SW cor. NW, Section 22-26-8w, Reno County, a wildcat test, found water in the Simpson sand at 4,285-4,318 feet. The test is located in the south central part of the county, south of Arlington.

An important extension to the Voshell Pool was found by E. W. Marland, Inc., when its No. 1 Moorehouse, in SW cor. NW, Section 3-21-3w, McPherson County, swabbed 390 bbls. the first 12 hours. The oil was found in the Simpson sand at 3,408 feet, while the pay was at 3,415-19 feet. The well extends production in the area a half mile north of the discovery well, drilled by Ted Washabaugh and others in the NE cor., Section 9-21-3w. The test was important as the production in the pool has been declining and several tests on the east side of the pool were found to be dry. The most recent failure was the Sinclair Oil & Gas Co.'s No. 5 Voshell, SE cor. SW NW, Section 10-21-3w, which had the Simpson sand at 3,462-65 feet. The test offsets three other failures and is the fifth dry hole in the pool.

New Pool in Montgomery

Another producer was added to the new pool in Montgomery County during the week by the Texokan Oil Co. The well is No. 1 Coleman, in Section 4-33-17, and is located about 10 miles east of Independence. The pay was found at 1,168 feet, and the oil rose 200 feet in the hole in 20 minutes. It was expected to be a 150-bbl. well.

The finding of oil in the Barton County wild test will increase the interest in the wildcat play in western Kansas. The drilling of the western counties of the State is expected to start in the early spring. Trego County, which has been in the oil producing column for the last year is expected to receive its share of the drilling. Most of the large oil companies are holding blocks of acreage in all parts of the county. The development has been on the east side of the county where the oil was found last summer. Barton is still the most northwesterly county in the State to produce oil. The other counties that are expected to be developed during the coming summer are Ness, Hodgeman, Edwards, Ellis, Rush, Pawnee and Stafford.

A showing of oil was found in a wildcat test north of Halstead, in Harvey County. The test is being drilled by Mrs. M. Gay, the only woman oil operator in Kansas, and is No. 1 Grove. C NW NE NW, Section 29-23-1w. The showing of oil is believed to be coming from dolomite at 3,370 feet. The test was carrying a hole full of water when the showing was encountered. The crew is landing 5-inch casing to dry up the hole before a production test can be made. The test was drilling deeper at 3,375 feet.

Butler County

National Refining Co.'s rig is up for No. 1 Snively, C NW SW, Section 25-23-6. Empire Oil & Refining Co. made

(Continued on Page 128)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

Company, farm and location—	Remarks:
BARBER COUNTY	
Skelly Oil Co.'s No. 1 Temple Ranch, SW NE Sec. 13-34-15w	Drlg. 5,241-46 ft.; show gas.
Robertson et al's No. 1 Powell, SE cor. SE Sec. 11-32-10w	Fishing 4,023 ft.
BARTON COUNTY	
Prairie's No. 1 Davidson, NW SE Sec. 4-16-11w	Drlg. 3,240 ft.
BUTLER COUNTY	
Joe Liggett's No. 1 Guanther, C SE NE NW Sec. 29-26-7	Shut down 50 ft.
Martin et al's No. 1 Flanigan, C SW SE SW Sec. 29-27-3	Drlg. 2,820 ft.
CHASE COUNTY	
Transcontinental & Cheney's No. 1 Wassel, NE SE Sec. 36-20-9	Drlg. 1,020 ft.
Urschell et al's No. 1 Lippa, C SW SW Sec. 27-18-6	Drlg. 1,775 ft.
Steinbuckel et al's No. 1 Stephenson, NE SW Sec. 4-20-6	Fishing 1,435 ft.
Steinbuckel et al's No. 1 Cook, SE cor. Sec. 21-19-8	Drlg. 1,690 ft.
E. W. Marland, Inc.'s No. 1 Altemus, SE NE Sec. 33-18-6	Drlg. 2,790 ft.
CHAUTAUQUA COUNTY	
Valentine Oil Co.'s No. 1 Patterson, NW SE SW Sec. 2-33-9	Drlg. 1,400 ft.
CLAY COUNTY	
Chrisler et al's No. 1 Tivier, SW cor. Sec. 19-8-3	Shut down 50 ft.
COWLEY COUNTY	
Roth & Farrout's No. 1 Adams, C SW NE NE Sec. 19-32-8	Rig.
Prairie O. & G. Co.'s No. 1 Dosbaugh, SE cor. Lot 27, Sec. 18-32-8	Drlg. 1,775 ft.
Milton & Mead's No. 1 Tatum, SE cor. SW Sec. 11-31-6	Drlg. 2,916 ft.
DICKINSON COUNTY	
Emery-Curtis & Bryan's No. 1 Hevner, NW SE Sec. 31-13-3	Drlg. 910 ft.
Cross' No. 1 Sanden, NE cor. Sec. 12-15-2	Rig.
Prairie's No. 1 Rumold, C NW SW NE Sec. 12-16-2	Shut down 3,200 ft.
Platt & Durham's No. 1 Wendt, NW cor. Sec. 17-16-2	Spudding.
Kruger et al's No. 1 Diche, C NW NE NE Sec. 17-13-4	Shut down 2,700 ft.
E. N. Morgan's No. 1 Whithair, NW SE Sec. 9-12-1	Shut down 1,768 ft.
DOUGLAS COUNTY	
Steinbuckel's No. 1 Unknown, SW NE NW Sec. 34-14-21	Show oil 766-90 ft.
Jenkins & Scott's No. 1 Haden, SE NW Sec. 10-12-17	Shut down 550 ft.
EDWARDS COUNTY	
Skelly's No. 1 Johnson, NE SW Sec. 21-26-17w	Shut down 4,545 ft.
Barnsdall Oil's No. 1 McCarty, NW NE Sec. 31-25-17w	Drlg. 4,290 ft.
Dixie and Amerada's No. 1 McCarty, SW cor. Sec. 22-25-17w	Drlg. 4,342 ft.
ELK COUNTY	
H. F. Fleming's No. 1 Shered, NW cor. Sec. 16-29-9	Comp. 2,657-60 ft.; swab. 100 bbls. oil, 100 bbls. water.

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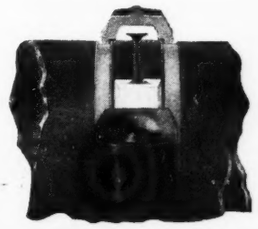

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Esperson Field One of Most Promising

Spraying of Oil in Mykawa Wildcat Encourages Hope of Field South of Houston. Barbers Hill Wells Boost Production

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Mar. 31.—Further proving up of the new Esperson Field in western Liberty County as one of the most promising areas now known on the Gulf Coast figured among the most important developments in this division the past week. On the Mykawa torsion balance discovery south of Houston the spraying of oil by another wildcat strengthened prospects for the uncovering of a new field there. Five more good wells were added in the rapidly expanding Refugio area and a series of other producers was completed in various fields of the coastal plains. Production of this division soared to a new peak of 210,462 bbls. daily and all in all the general outlook of the week was toward greater output for the Gulf Coast.

The Esperson (Sheeks) Field developments were marked by the bringing in of two more good wells in the 3,200-3,300-foot sand with a combined initial flow estimated at 3,300 bbls. daily. Cranfill & Reynolds Co.'s No. 8 Esperson, C. W. Fisher Survey, in which two joints of screen were set in a sand at 3,262-93 feet flowed 1,800 bbls. of 22.8 gravity oil daily, and the same company's No. 2 Davis, Daniel Kokernut Survey, recently completed in a shallower sand, was deepened to 3,306 feet where it is making 1,500 bbls. of 22 gravity oil.

Oil of Good Grade

This field, with 11 producers so far completed, now is being looked upon more and more as one of the best pools which has been opened on the coast in recent years. The oil, unlike that being obtained in the majority of the newer fields, is good Grade A crude, which grade is much in demand for its lubricating oil base but which has been steadily declining in available sources. A productive area over three-quarters of a mile in length has been proved already and in this area production is being obtained from three separate horizons, all comparative shallow. Although the wells have not shown large initial production all have been steady. With the limits of the field so far undefined in the immediate vicinity and two comparatively shallow sands already proved the field as a probable major producer is of particular importance. The possibilities of other sands also adds to the potential value of the area. A still shallower sand than the three produced some oil in one well and a deep sand made a gasser but so far no deep tests have been drilled within the main producing area.

Drilling Operations

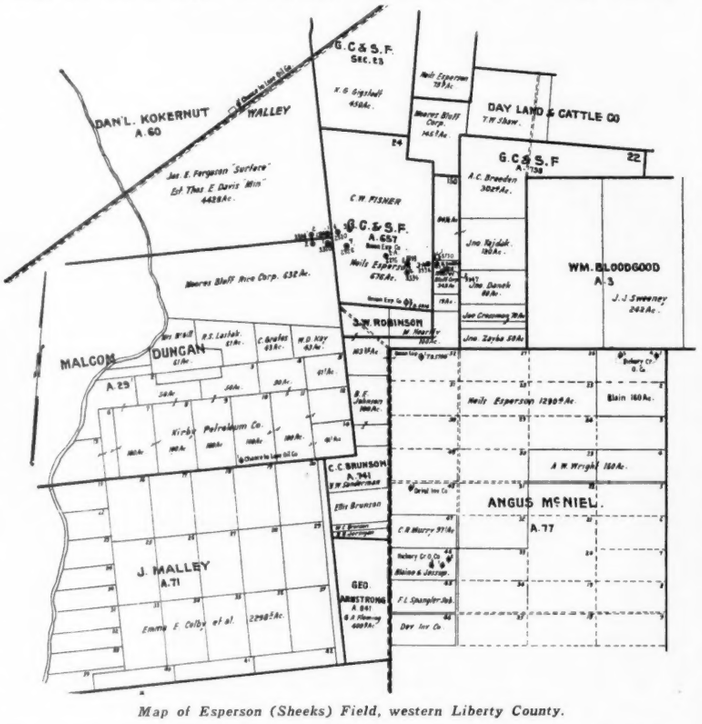
In addition to the above wells and tests, Cranfill-Reynolds Co.'s No. 2 Moores Bluff, west of No. 1, is in the 2,300-foot sand at a total depth of 2,315 feet and has set 6⅝-inch casing to test. This company is drilling in No. 9 Esperson and is building derrick for No. 10. Yount Lee Oil Co.'s second test on its 34.8-acre Moores Bluff tract was drilled to a total depth of 6,689 feet but with drill stem stuck sidetracked and drilled to the 3,300-foot sand at 3,337 feet where it will be put on the pump.

Production of the Esperson Field is being run by the Gulf Pipe Line Co., which several months ago put in a small line to connect with its line from Lynchburg to Liberty.

Mykawa Test

Of considerable importance from a wildcat prospect was Humble Oil & Refining Co.'s No. 1 Siadous at Mykawa, south of Houston. In slightly less than 12 hours this test flowed 34 bbls. of oil with 4,300,000 feet of gas from a sandy shale at a total depth of 4,933 feet, where 105 feet of screen was set. The well, which was shut in after that flow, was on a five-sixteenths-inch choke and pressure showed 1,750 pounds on the casing and 1,560 pounds on the tubing.

Mykawa has been one of the most closely watched of the salt dome prospects which came to light in the geophysical discovery rush which came during 1928. It was checked by the torsion balance by H. C. Cockburn, whose acreage was turned mostly to Humble Oil & Refining Co., although a number of other large companies as well as smaller operators obtained acreage in the lease boom which followed the discovery of the prospect.



Map of Esperson (Sheeks) Field, western Liberty County.

The Siadous well is the second test at Mykawa to show oil. It is 1,300 feet west of No. 2 Irvin which was completed as a 50,000,000-foot dry gasser but which later with the decline in pressure started spraying some oil, first a light distillate and then crude. This was taken off the condensate drip as the gas was turned into the Houston Pipe Line Co.'s system. The Irvin well has swabbed as high as 20 bbls. daily. These two wells are taken as an indication of the existence of a very prolific field somewhere on or around what is called the Mykawa Dome. It has been expressed that Mykawa has shown many of the characteristics which marked the development of Refugio, now the largest field in southern Texas or the Coastal Territory. So far the presence of a dome has not been proved and there has been much speculation on what Mykawa is.

List of Completions

Since the opening of the field in August, 1929, there have been no complete failures. One test, Cranfill & Reynolds Co.'s No. 1 Vajdak, a north offset to the discovery well, missed the production found at 3,304-20 feet in the discovery well, and went to 5,750 feet but at that depth was completed as a small gas well. With this exception all other tests completed have made oil wells either in the 2,300-foot sand or the 3,300-foot horizon, or both. A list of the completions since the opening of the fields is:

	Initial prod. (bbls.)	Total depth (ft.)
Yount Lee Oil Co.		
No. 1 Moores Bluff (disc.)*	500	3,320
Cranfill & Reynolds Co.		
No. 1 Davis	400	2,336
No. 2 Davis†	1,500	3,306
No. 1 Moores Bluff‡	300	2,315
No. 1 Vajdak	Gas	5,750
No. 2-A Esperson	150	2,276
No. 3-A Esperson	400	3,336
No. 4 Esperson	470	3,334
No. 6 Esperson	85	2,320
No. 7 Esperson	650	2,326
No. 8 Esperson	1,800	3,293

*Drilled as No. 5 Esperson. †Completed by Harvey Smith and purchased by Yount Lee Oil Co. ‡Completed in January at 350-bbl. well at 2,320 feet.

The Esperson area was checked during 1928 with the torsion balance by the Union Exploration Co., a Moody-Seagraves interest, which now is a part of the Cranfill & Reynolds Co., the present operator. The latter controls all the acreage covering and adjoining the present producing field except for the Moores Bluff Rice Co.'s 34.8-acre tract owned by the Yount Lee Oil Co. of Beaumont which bought the tract, including the discovery well, soon after the latter well was completed. Following the geophysical checking of the area, which possibly might overlie a very deeply seated salt dome, and preceding the taking over of the property by the Cranfill & Reynolds Co., the Union Exploration Co. drilled two deep dry holes some distance to the south of the present producing area, these tests being Nos. 1 and 2 Esperson.

Activity at Refugio

Operations continued active at Refugio the past week. One of the most interesting developments now is in the vicinity of Union Producing Co.'s No. 1 M. F. Lambert, deep wildcat producer, 2 miles to the northeast of the main field, in which area several deep tests are getting under way. This company's No. 2 Lambert, several hundred feet further east of the wildcat, is making hole around 4,800 feet, having to go another 1,500 feet before getting into the new deep horizon opened by No. 1. Independent Oil & Gas Co. is getting started in an

(Continued on Page 122)

GULF COAST FIELDS AND WILDCATS

Week Ended March 29

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 2 Barber, north side.. Drlg. shale 6,941 ft.
Mills Bennett Production Co.'s No. 7 Barrow, north ... Drlg. shale 5,389 ft.
Mills Bennett Co.'s No. 1 Gulf fee ..... Coring sand showing oil 5,362 ft.
Mills Bennett Production Co.'s No. 4 Wilburn, southeast.. Drlg. shale 1,518 ft.
Gulf Production Co.'s No. 2-A Wilburn, southeast ..... Comp. flowing 500 bbls. fluid, 15 per cent water, 5,245 ft.
Humphreys Corp.'s No. 1-F Barber, northwest ..... Drlg. shale and lime 4,657 ft.
Humphreys Corp.'s No. 2-C Kirby ..... Drlg. hard sand and lime 1,780 ft.
Humphreys Corp.'s No. 4-H Kirby (workover) ..... Pulling liner to deepen.
Humphreys Corp.'s No. 1 McLean, east side ..... Comp. flowing 1,200 bbls. oil 5,325 ft.
Humphreys Corp.'s No. 1 Morgan ..... Drlg. shale and lime 5,014 ft.
Humphreys Corp.'s No. 2 Scott ..... Drlg. gumbo and lime 1,464 ft.
McAlbert Oil Co.'s No. 1 Higgins ..... Drlg. sandy shale showing oil 5,368 ft.
Sinclair Oil & Gas Co.'s No. 3 McKinney fee ..... Drlg. shale and lime 3,327 ft.
Sinclair Oil & Gas Co.'s No. 5 Wilburn, southeast ..... Set 270 ft. screen 5,216 ft.; testing.
Sinclair Oil & Gas Co.'s No. 6 Wilburn, southeast ..... Drlg. hard sand and lime 1,512 ft.
Sun Oil Co.'s No. 4 McKinney fee ..... Drlg. shale and lime 3,072 ft.
Sun Oil Co.'s No. 5 Wilburn fee, southeast ..... Drlg. shale and lime 3,096 ft.
Sun Oil Co.'s No. 6 Wilburn fee, southeast ..... Drlg. gumbo 2,146 ft.
Sun Oil Co.'s No. 3 J. Wilburn, southeast ..... Comp. flowing 200 bbls. fluid, 30 per cent sediment and water, 5,379 ft.
Sun Oil Co.'s No. 5 J. Wilburn, southeast ..... Drlg. gumbo 977 ft.
Sun Oil Co.'s No. 6 J. Wilburn, southeast ..... Rig.
F. L. Thompson's No. 2 Wilburn southeast. ..... Drlg. rock 1,953 ft.
F. L. Thompson's No. 3 Wilburn, southeast ..... Location.
Yount Lee Oil Co.'s No. 11 Chambers, south ..... Drlg. shale 5,624 ft.
Yount Lee Oil Co.'s No. 13 Chambers, south ..... Cored sand 4,950 ft.
Yount Lee Oil Co.'s No. 3 Phillips, southeast ..... Fishing 5,068 ft.
Yount Lee Oil Co.'s No. 6 Woodward, southeast ..... Drlg. hard lime 4,920 ft.
Yount Lee Oil Co.'s No. 1 Zadie Fisher, southeast ..... Drlg. hard sand 6,020 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 9-A Deutrich ..... Rigging up to pump 3,294 ft.
Humble & Valley's No. 6 Gotosky ..... Comp. flowing 150 bbls. oil 3,291 ft.
Humble & Valley's No. 5-B Grawunder ..... Spudded.
Humble & Valley's No. 1-B Hardy ..... Rig.
Humble & Valley's No. 3 Helmuth ..... Drlg. sticky shale 3,380 ft.
Humble & Valley's No. 1-C Mitchell ..... Location.
Humble & Valley's No. 7 Payne ..... Derrick.
Humble & Valley's No. 8 Payne ..... Derrick.
Humble & Valley's No. 5 Saunders ..... Drlg. sticky shale 2,968 ft.

(Continued on Page 121)

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Darst Creek Has 42,000 Barrel Well

Biggest Well Ever Completed in Southwest Texas Extends Field 2,000 Feet Northwest. Empire Gets 5,500-Bbl. Well

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Mar. 31.—Magnolia Petroleum Co. furnished the news feature of the week when it brought in a 42,000-bbl. well in the Darst Creek Field in Guadalupe County, extending the field 2,000 feet to the northwest, the biggest well ever completed in Southwest Texas. The nearest producer is the United North & South's No. 2 Dix and all the acreage between belongs to the United North & South.

The new producer came in at 2,317 feet, about 300 feet shallower than the Edwards lime producing wells of the field and it is not known that it ever got out of the chalk. The well is about 2,000 feet east of the center of the Joel R. Robinson Survey and 150 feet from the northeast and southeast lines of the Mrs. M. E. Roamel tract.

The first gauge was for one hour and it flowed at the rate of 32,880 bbls. per day, the gauge being taken the day the well came in. The next morning on a 32-minute gauge it flowed at the rate of 34,500 bbls. per day and late in the week when gauged by the proration umpire for two hours it flowed at the rate of 42,000 bbls. per day.

So far as Southwest Texas is concerned this puts it in a class by itself as to size. The biggest well previously reported anywhere in Southwest Texas was the Gulf Production Co.'s No. 1 Knoblock, 6,000 feet southwest of it, which came in for 9,000 bbls. a day in the Edwards lime.

Empire Well 5,500 Bbls.

Other features of the Darst Creek Field were the completion by the Empire Gas & Fuel Co. of its No. 1 Knoblock at 2,590 feet in the Edwards lime for 5,500 bbls. per day. It is approximately 800 feet southwest of the Gulf Production Co.'s 9,000-bbl. No. 1 Knoblock.

Because of the uncertainty as to the Magnolia Petroleum Co.'s No. 1 Roamel the talk of the field is "crevice well." This, of course, is only theory. The past week Cranfill & Reynolds completed their No. 2 Appling, an offset to the Magnolia Petroleum Co.'s No. 1 Appling, also supposed to be a crevice well and which came in for 5,000 bbls. Cranfill & Reynolds' No. 2 Appling which is supposed to have gone into the same crevice is a 200-bbl. well. It is approximately 2 miles from the new Magnolia Petroleum Co.'s No. 1 Roamel 42,000-bbl. well, a little north of east to the Magnolia Petroleum Co.'s No. 1 Appling, a 5,000-bbl. well and also supposed to be a crevice proposition. And it is another 2 miles from No. 1 Appling to the Penn Oil Co.-Simms Oil Co.'s No. 1 Manford which was a 2,500-bbl. well and also supposed to be a crevice well. The three crevice spots line up in a straight line which is at an angle with the line of production of the rest of the field. There is no production and no holes have been drilled between No. 1 Appling and No. 1 Manford.

Simms Oil Co. last week completed its No. 3 Manford, an offset to the Penn-Simms' No. 1 Manford and got a 1,000-bbls. well. It is the third producer at that point and Cranfill & Reynolds' No. 2 Appling is the second producer at that point.

About midway between the Magnolia Petroleum Co.'s No. 1 Appling and No. 1 Roamel there are two other wells, one the United North & South's No. 1 S. Roamel which is thought to be a crevice proposition.

The new Magnolia well has added more than production to the field as it has started a train of thought and study along the line of geology as many thought it was going to be a dry hole. One of the interesting things about the Magnolia's No. 1 Roamel, gauged for two hours, is that it produced 120 bbls. more the second hour than it did the first.

National Opens Field

National Oil Co.'s No. 1 Adams in Zapata County, several miles west of nearest production blew in last week after being bailed down 160 feet and caught fire which was later put out but the well was leaking gas around the casing. It stood for months at 690 feet on account of lack of water to drill with. Last week the company moved in a tractor engine and bailed it down 160 feet when it blew in and cleaned the hole. It has been whistling from escaping gas for several months. A 5-mile water line is being laid to the well and the company will endeavor to complete it as a producer. It probably means a new pool.

Laredo District

It was a rather light week in the Laredo district. E. H. Buckner completed No. 2 Peters at the northeast end of the Kohler Field for 15,000,000 feet of gas in sand at 1,686-1,703 feet. It was the only completion in the field for a producer. There was also only one new location, Killam-Duggan's No. 14-B Cuellar in Zapata County, a proven location. There was also one dry hole abandoned, the Everett Suladie's No. 1 Peters in the Kohler Field in Duval County, dry at 2,777 feet.

The Cole Petroleum Co.'s No. 68 Benavides, Block 11, Survey 14 of the Cole Field, a deep test was reported late in the week at 2,750 feet. This is within a couple of days drilling of the depth where the Magnolia Petroleum Co. brought in No. 1 Benavides, 2 miles south which opened a new sand in that field at 2,777 feet. Cole's No. 68 had a showing of gas and oil at 2,401-21 feet. O. W. Killam's No. 18 Bruni located about 2 miles west of Magnolia's No. 1 Benavides and 2 miles southwest of Cole's No. 68 Benavides, got seven joints of fluid showing some oil at 3,004-14 feet. It also showed a little salt in the fluid and some gas. Both the Killam and the Cole holes are deep tests, having passed up the shallower production and largely have been stimulated to drill deep because of the Magnolia well which opened a new sand. Killam's No. 18 Bruni tested 60,000,000 feet of gas in sand at 2,447-59 feet, which is a new sand horizon in that territory.

Pettus Area

In the Pettus Field in Bee County it looks like the Houston Oil Co. would get a producer in No. 1 Portis, 1 mile southwest of the discovery well in the A. Smalley Survey, due south of the town of Pettus. The well is in the northeast corner of the Smalley Survey, and reached the pay at about 4,000 feet last week and has been shut down since. The impression seems to be it will make a producer. It is midway between the Morgan Oil Corp.'s No. 1 Ray, abandoned the week before at 4,500 feet on its southwest and the discovery well of the field on the northeast.

Big Sale Made

John G. Morris sold part of his holdings in Southwest Texas to the Moody-Seagraves interests for an amount in excess of $600,000. The deal included Morris' interest in 5,100 acres and 11 producing gas wells in the Agua Dulce Field in western Nueces County and 3,000 acres and seven gas wells in the Laredo territory. The Agua Dulce property is nearly in a solid block but the Laredo property includes several lease blocks extending from the Jennings gas field in Zapata County northeast to the Peters ranch northeast of the Kohler Pool in Duval County. Morris discovered the Agua Dulce Field. His Laredo property was carried under the name of the Allied Gas Co. Morris has been operating in Southwest Texas for several years.

PRODUCTION
SOUTHWEST TEXAS

Branyon	20
Buchanan	51
Bruner	23,666
Dale	414
Darst Creek	17,858
Kingsville	134
Larremore	106
Luling	9,661
Lytton Springs	833
Manford	720
McMullen County	35
Medina County	22
Mirando	8,480
Pettus	1,090
Somerset	1,560
Star County	17
Taylor	320
Yoast	648
Total Southwest Texas	65,645
Last week	62,669
Increase	2,976

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks:
Frontier Oil Co.'s No. 1 Hoffman, 2,122 ft. from E line, 1,550 ft. from S line of tract, in the John Sharp Sur., 3 miles SW from Somerset Field	T. D. 2,100 ft.; dry and abandoned.

AUSTIN COUNTY

Humble O. & R. Co.'s No. 8 R. Thompson, 6,660 ft. SE of S cor. of William Smeather Sur. in the W. C. White Sur.	Location.
Empire Gas & Fuel Co.'s No. 1 J. T. Boyd 75-ac. tract, 300 ft. S of CNL of tract in the S. F. Austin Sur.	Location.
Rowan & Tong's No. 1 F. O. Massengale 350-ac., 150 ft. from S line, 3,184 ft. from W line of tract and survey in the North John Pace Sur., 1½ miles W from Pettus Townsite	Derrick.

BASTROP COUNTY

H. C. Cate et al's No. 1 C. L. Lackey, 5,150 ft. NW line, 1,500 ft. SW line of 219-ac. tract, in the Joshua Gray Sur., 2 miles W from Bateman	T. D. 2,285 ft.; reaming 2,200-85 ft.; chalk and Serpentine.
B. L. Batts et al's No. 1 A. A. Alexander, W. M. Eastland Sur., 4,190 ft. to NW line, 1,320 ft. to SW line of Sur.	T. D. 1,320 ft. (corrected depth); shut down.

BEE COUNTY

Nichols Oil Corp.'s No. 3 Hicks, 500 ft. N-S line, 500 ft. E-W line of Blk. 19, just S of Normanna, 350 ft. SE of No. 2 Hicks discovery	T. D. 1,000 ft.; drlg. in sand.
Morgan Oil Corp.'s No. 1 Mrs. R. A. McKinney, 350 ft. N of S line, 2,640 ft. W of E line of Mrs. R. A. McKinney tract, in the Ryland C. Ballard Sur.	T. D. 536 ft.; set 10-in. csg. at 536 ft.; W.O.C.
Ed Price's No. 1 Mrs. Laura E. Weiss, 200 ft. out of NW cor. of B.&B. 640-ac. Sur., E of Normanna, 6 miles W of Blanco Creek, in the B.&B. Sur.	Derrick.
Houston Oil Co.'s No. 1 J. F. Portis 288.3-ac. 1 mile SW of No. 1 McKinney, in the A. Smalley Sur.	T. D. 3,825 ft.; cored shale; ratholing ahead.
Fisher & Wiggins' No. 1 A. J. Kimbell, C 189 acres, in the Stephen Winship Sur.	T. D. 2,460 ft.; shut down; repairing rig.
Morgan Oil Corp.'s No. 1 Geo. A. Ray, 2 miles SW of No. 1 McKinney, NW Medio Creek, NE part Geo. Ray 936-ac. tract, in the John W. Williamson Sur.	T. D. 4,500 ft.; dry and abandoned.

BEXAR COUNTY

Burton Oil Co.'s No. 1 P. H. Shook, in the Monjares Sur., 3,150 ft. to E line, 150 ft. to N line of farm, 10 miles SE from San Antonio	T. D. 2,194 ft.; dry and abandoned.
Texas Pet. Co.'s No. 3 H. C. Gayle, 700 ft. S of No. 2, Blk. 39, in the C. A. Yoakum Sur.	Location.
Moore-Jauer's No. 1 Holly R. Ellison	T. D. 2,095 ft.; drlg. in gumbo.

(Continued on Page 118)

COMPLETIONS

Cole Pool—Webb County

W. E. May's No. 1 Volpe, 660 feet east line, 840 feet south line, Block 15, Survey 694, total depth 2,303 feet, completed, 50,000,000 feet gas, 550 pounds rock pressure.

Jennings Pool—Zapata County

Killam-Duggan's No. 13 Cuellar, 1,011 feet northwest corner, 150 feet southwest line of Survey 278, total depth 1,539 feet. Set 6⅝-inch casing at 1,535, sand 1,535-39 feet, completed, flowing 200 bbls.

A. L. Edgington's No. 1 Trevino, 150 feet south line, 150 feet east line, Block 26, Survey 412, total depth 1,251 feet, completed, pumping 60 bbls.

Darst Creek—Guadalupe County

Cranfill & Reynolds' No. 2 Appling, 50 feet each way south point 111-acre tract, offset Magnolia's No. 1 Appling in the James Hodges Survey, total depth 2,250 feet, completed, swabbed 200 bbls. per day, depth corrected.

Empire Gas & Fuel Co.'s No. 1 Knoblock, 150 feet northeast and southeast lines of 40-acre tract in the J. R. Robinson Survey, total depth 2,590 feet, completed, flowing 5,500 bbls. per day, set casing 2,516 feet.

Empire Gas & Fuel Co.'s No. 1 Henry Willie, 150 feet north line, 150 feet west line of tract in the J. Darst Survey, total depth 2,630 feet, completed, swabbing 800 bbls. per day.

Simms Oil Co.'s No. 3 Manford, 300 feet southwest No. 1, 225 feet from southeast line, total depth 2,375 feet, completed, swabbed 1,000 bbls. per day, crevice well.

ABANDONED TESTS

Jennings Pool—Zapata County

O. W. Killam's No. 17 Cuellar, 600 feet north line, 940 feet east line, 160-acre tract (Cuellar) out of 1,772-acre Cerrito Blanco grant, location, abandoned.

NEW LOCATIONS

Darst Creek—Guadalupe County

Humble Oil & Refining Co.'s No. 2 Tadlock, 150 feet south-north line, 172 feet east-north line of tract in the J. C. Darst Survey, location.

Humble Oil & Refining Co.'s No. 4 Yates Wilson, 172 feet west, 150 feet

(Continued on Page 123)

other processes have failed to earn their keep

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California Production on Down Trend

Santa Fe Springs Slipping While Potential of State as Whole Has Declined. Gas Conservation Law Will Help

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Mar. 29.—Daily production of crude oil in California registered a substantial decline during the past week due principally to enforcement of the gas conservation law at Santa Fe Springs, together with the rapid decline which is taking place in that field and satisfactory curtailment work in other areas. The general situation in California from a production standpoint is quite favorable and a further improvement may be anticipated during the next several months unless something unforeseen develops. The gas conservation law is expected to play an important part in this general improvement but even without this enforcement work State production is headed for a considerably lower level. Maximum effectiveness of the gas conservation law has been minimized because of prolonged litigation on the part of a small group of Santa Fe Springs operators with the result that the period of flush production is at an end except in a few sections of the field which have not been overdrilled. It must be quite evident to those who have contested application of the gas law at Santa Fe Springs that they would have been much better off if they had permitted the State to proceed with enforcement several months ago. By a strange irony of fate several of those who have been contesting the validity of the gas conservation law at Santa Fe Springs will be actually permitted to produce more oil under Judge Hazlett's temporary restraining order than the allowable crude oil production assigned to them by Umpire Grimm in conformity with the crude oil curtailment plan.

Enforcement of the gas conservation law at Santa Fe Springs should prove an important factor in field production during the next several weeks but it is quite evident to those in close touch with conditions prevailing in the field that Santa Fe Springs will probably not require a gas conservation law 60 days hence because of the abnormal decline which has been taking place since the middle of January. In order to indicate the rapid decline in deep zone production at Santa Fe Springs, it might not be amiss to mention the fact that field production has already slid out from under two established potentials. The fact-finding committee originally estimated the potential production of Stanta Fe Springs at 300,000 bbls. daily but on an actual six-day flow test the field was only found capable of producing 262,284 bbls. per day. A few weeks later the potential had dropped to 232,140 bbls., and it is doubtful if Santa Fe Springs could produce in excess of 200,000 bbls. per day at the present time. This substantial decline in daily production of Santa Fe Springs has taken place in spite of the fact that 84,806 bbls. of new production was added between January 1 and February 28, 1930. There were 30 new wells finished at Santa Fe Springs during January and 25 in February, the aggregate initial daily production being 69,479 bbls. and 15,327 bbls., respectively.

Santa Fe Springs Slipping

It is quite obvious from the foregoing that Santa Fe Springs is passing out of the picture just as quickly as it can consistently do so. The gas conservation law will prolong this period to a certain extent but the damage resulting from abnormal gas waste due to unrestricted production has already taken its toll.

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	77,405	250,325
Fuel oil	.....	.....	.....	.....	71,950	49,950
Diesel and gas oil	145,211	20,744	84,568	12,081	1,140,597	583,503
Gasoline	290,112	41,445	129,603	18,515	4,141,600	4,752,940
Naphtha distillate	.....	.....	.....	.....	.....	81,750
Coastwise—						
Crude oil	279,000	39,857	152,814	21,831	3,382,844	6,535,453
Fuel oil	359,476	51,354	477,618	68,231	4,123,275	4,789,016
Diesel and gas oil	34,026	4,861	108,641	15,520	520,756	264,135
Gasoline	332,465	47,495	100,773	14,396	2,511,145	2,577,980
Kerosene	913	130	.....	.....	18,714	3,313
Exports—						
Crude oil	65,412	9,345	246,982	35,283	1,656,739	1,052,426
Fuel oil	671,228	95,890	313,023	44,718	4,005,133	4,224,089
Diesel and gas oil	45,769	6,538	141,465	20,209	1,295,384	640,584
Gasoline	295,719	42,246	379,295	54,185	3,548,292	2,139,861
Kerosene	82,335	11,762	98,458	14,065	847,497	597,211
Lubricants	.....	.....	.....	.....	5,057	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	88,280	.....
Gasoline	.....	.....	.....	.....	285,245	690,164
Coastwise—						
Fuel oil	32,379	4,626	44,648	6,378	688,871	688,531
Diesel and gas oil	.....	.....	11,690	1,670	73,676	182,724
Gasoline	89,304	12,758	.....	.....	1,057,884	744,308
Kerosene	.....	.....	.....	.....	93,814	27,181
Exports—						
Crude oil	.....	.....	.....	.....	3,075	71,453
Fuel oil	.....	.....	.....	.....	122,143	96,351
Diesel and gas oil	.....	.....	.....	.....	124,540	64,338
Gasoline	52,095	7,442	94,950	13,564	837,230	1,312,637
Kerosene	28,750	4,107	.....	.....	162,499	75,138
Lubricants	.....	.....	.....	.....	.....	13,693

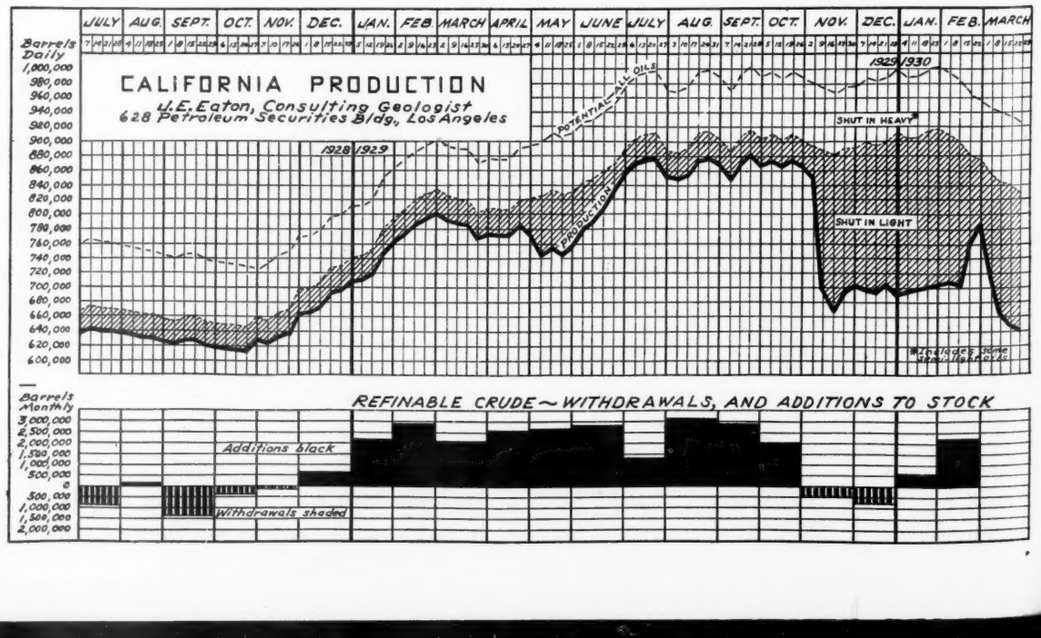
Santa Fe Springs has been the dominating factor in State production for more than a year and with this field headed for a much lower level, State production will naturally reflect a decline. This is of special importance because the drop in potential production at Santa Fe Springs also reduces the potential production of the State. During the middle of January, California could probably have produced a little over 1,000,000 bbls. of crude oil daily but it is extremely doubtful if the State could exceed 900,000 bbls. daily at the present time. It must be remembered of course that while the present potential of the State is believed to be below 900,000 bbls. per day this does not by any means reflect the maximum amount which could be developed by additional drilling. There are several deep zones lying dormant in California fields and it is quite obvious that their development would exert a very substantial effect on State production. It is quite probable that production in California could be increased in excess of 500,000 bbls. a day by additional drilling within a short time.

Attention is respectfully directed to the accompanying graph showing crude oil production in California for the past 21 months, together with the changes in light refinable crude oil stocks during the same period. It will be noted that the trend of production was consistently upward between July, 1928, and October, 1929, at which time the curve showing actual production registered a very precipitous drop due to initiation of crude oil curtailment under the supervision of Umpires Paul Grimm and Neal Anderson. From the middle of November to the middle of February, production remained relatively stable but registered a very substantial increase late in February, 1930, followed by another substantial decline almost immediately. This fluctuation reflects the six-day open flow test and subsequent curtailment of crude oil production. This substantial increase in actual production during the latter part of February, 1930, is particularly interesting because the potential production of the State had started declining approximately 30 days earlier.

Production Headed Downward

It does not require much research to support the contention that California's potential daily production, which was approximately 1,000,000 bbls. daily at the end of January, started declining from that point forward and is still headed for a further lower level. The fact that production at Santa Fe Springs slid out from under its theoretical potential on two occasions and a comparison of the initial daily production of new wells finished since the middle of January should remove any doubt as to the status of Santa Fe Springs. The withdrawals and additions to stocks of refinable crude during the past two years is especially interesting. It will be noted from the accompanying graph that the draft on storage which predominated during the latter part of 1928 was superseded by a period of several months' duration in 1929, during which time a substantial amount of light crude oil was added to stocks. Crude oil curtailment during November and December, 1929, resulted in another temporary draft on stocks of light refinable crude but this was in turn succeeded by another period of accumulation. Final figures are not available covering March, 1930, but it is quite probable that there will be a draft on light refinable crude oil during this period unless the restriction of runs to stills or considerably larger tanker shipments abnormally affect the storage situation.

During February, 1930, crude oil production was 36,779 bbls. a day larger than the output during the preceding month, January. This was due almost entirely to the six-day open flow test conducted at Elwood, Ventura Avenue, Long Beach, Santa Fe Springs and Seal Beach as these fields were responsible for practically the entire increase. Elwood headed the list by registering an increase in daily production of 13,951 bbls., followed by Santa Fe Springs with 8,167 bbls., Long Beach with 6,433 bbls., Ventura Avenue with 3,197 bbls. and Seal Beach with 1,088 bbls. Daily production in these fields has been considerably lower during March due to curtailment work and enforcement of the gas law. Total fluid stocks of crude and refined oils increased 3,352,220 bbls. during February, the largest accumulation being in light refinable crude which increased 2,273,041 bbls. during the month. Gasoline and heavy crude also registered substantial gains, the former being up 956,593 bbls. and the latter 614,716 bbls.



California refiners effected a reduction of 10,226 bbls. per day in runs to stills during February, the total throughput in February being 637,139 bbls. daily, as compared with 647,365 bbls. in January. This reduction is in conformity with the general plan to reduce refinery operations by one-seventh in order to operate on a six-day week. A further substantial decline in refinery operations has been effected in March and a further reduction is anticipated in April.

Santa Fe Springs

Although enforcement of the gas conservation law is the outstanding development of interest in the Santa Fe Springs Field at the present time, operators in that area are facing another problem of equal importance. This concerns the advisability of continuing drilling operations, or making a bid for production in the nearest zone. It has been quite evident for the past 60 days that Santa Fe Springs, to use a slang expression, is shot. As a result of this depleted condition it is doubtful if the future ultimate production of incompleted drilling wells justifies the additional expenditures necessary to carry these projects down to completion in the Clarke or Hathaway zones. Practically every major operator at Santa Fe Springs has reduced drilling operations to an absolute minimum in order to reduce apparent drilling losses. The Union Oil Co. was one of the first to recognize the crisis reached during the latter part of January and immediately started reducing its scope of work. In order to capitalize on its advanced deductions the Union, instead of continuing work down to the Clarke zone, has finished several wells in the Meyer zone and a number of others in the Buckbee and O'Connell zones.

A check of drilling operations under way at Santa Fe Springs indicates that the entire field is retrenching as far as drilling operations are concerned but evidence indicates that this reduction in drilling has been started too late to avoid substantial losses. In other words, it is doubtful if 50 per cent of the wells now being drilled at Santa Fe Springs will ever pay out. The Clarke and Hathaway zones have been showing unmistakable evidence of depletion and exhaustion for several months. During December, 1929, the average initial daily production of new wells at Santa Fe Springs was 3,195 bbls. During January and February, 1930, new wells averaged 2,316 bbls. and 613 bbls. per day, respectively. This indicates quite conclusively that Santa Fe Springs is rapidly passing out of the picture and operators who have a large number of incompleted drilling projects under way will have a further reminder that town lot drilling is not justified when red ink appears in the profit and loss statement as a result of the failure of these wells to pay out.

Most of the new wells finished at Santa Fe Springs during the past week registered small production upon completion. Nos. 3 and 4 on the Jameson property of the Elmer Oil Co. indicate the present depleted condition of the Clarke zone. The former showed an initial of 215 bbls. daily from 7,928 feet, while the latter came in doing 245 bbls. per day from 7,910 feet. George F. Getty's No. 47 was another small well finished during the week as it was only good for 248 bbls. of 29.2 gravity oil daily from 7,900 feet. No. 4 Howard of the Richfield Oil Co., bottomed at 8,050 feet and finished with a 3-inch liner carrying 300 feet of perforated, was recompleted doing 196 bbls. of 29.1 gravity oil cutting 15 per cent. In addition to completing this well, the Richfield abandoned No. 1 Mayberry at 8,745 feet as this well, located in the extreme eastern part of the field, showed no promise of resulting in commercial production. The Standard's No. 21 Walker, a new well finished at 7,879 feet, was good for 110 bbls. initially but this project was subsequently killed in order to clean out the hole to bottom.

Union and Associated

The Union Oil Co. increased its list of producers by finishing No. 54 Bell and No. 15 Howard. The latter registered an initial of 139 bbls. per day, the oil testing 26.9 degrees and showing a cut of 10 per cent. This project was carried down to 4,128 feet but due to the present depleted condition of the lower zones the company plugged back to the Bell zone at 3,815 feet. No. 54 Bell, which was finished in the Clarke horizon at 7,960 feet, was one of the best wells completed during the week as it tanked 1,025 bbls. during the initial 24-hour test following completion. The successful production registered by this well, in contrast with many of the other producers finished during the week, is due almost entirely to its structural location and also because it is outside of the intensely drilled town lot area. The Union has several other second and third-line offsets which can be expected to show favorable production inasmuch as they are removed from the area of intense development and have consequently not been subjected to abnormal drainage.

The Associated Oil Co. recompleted two former upper zone producers during the week and both of them, due to careful subsurface correlation, registered favorable production. No. 3 Jordan, which was returned to production after being redrilled and deepened to 7,493 feet, was recompleted flowing 1,005 bbls. initially,

(Continued on Page 122)

MICHIGAN WILDCAT FLOWS OIL 10 MILES FROM MOUNT PLEASANT

By Special Correspondent

MUSKEGON, Mich., Mar. 29.—One of the most important wildcat discoveries near the Mount Pleasant proven Field was made last week when the H. E. Pollock well on the old Doherty farm came in as a producer in the Dundee formation.

The well is located about 10 miles northwest of the proven Mount Pleasant Field and about 5 miles south of the village of Clare in Vernon Township, Isabella County.

Dundee limestone was truck at 3,720 feet and at 2 feet in the formation oil quickly filled up the hole. The well flowed and oil was blown for a quarter of a mile by the wind on Thursday night, March 27, about 24 hours after pay sands first were struck.

As the week closed operators were attempting to run casing before drilling it deeper into the pay sands and were having difficulty to get the casing in between flows.

The well is known by state permit as the Pollock No. 1 Anna Bowman well, SE NE, Section 27-16n-4w, Vernon Township, Isabella County.

The new well is in a direct line between the Mount Pleasant Field and the McKay-Mercier gasser brought in about November 1 in Grant Township, Clare County. It has aroused considerable interest as the possible discovery well of a new central Michigan field. It is about the most important wildcat strike of oil made near the Mount Pleasant Field in the past year.

Two more wells, one of which is near

(Continued on Page 105)

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Union, No. 1 Buel Canyon, Santa Barbara Co.	X- 7-31	4,000	hd. sd. drilling
Tannehill, L. B., No. 1 Los Olivas, Santa Barbara Co.	23- 7-31	4,395	cleaning out
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	4,380	br. sh. drilling
Universal, No. 1 Point Conception, Santa Barbara Co.	30- 5-34	rig	rigging up
Ohio Oil Co., No. 1 Lompoc, Santa Barbara Co.	2- 6-34	3,140	hd. sd. drilling
Prairie Oil Co., No. 1 Lompoc, Santa Barbara Co.	15- 7-35	1,280	br. sh. drilling
Fields Gasoline Co., No. 1 Santa Maria, Santa Barbara Co.	8- 9-33	200	hd. sd. drilling
Barnsdall, No. 1 Gato Ridge, Santa Barbara Co.	9- 8-32	....	building road
Vaqueros Oil Co., No. 1 Union, Santa Barbara Co.	5- 7-30	....	grading
Carey, A., No. 1 Goleta, Santa Barbara Co.	1- 4-28	2,880	cleaning out
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	blew out
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	1,016	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	2,890	sd. sh. drilling
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	1,026	suspended
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	1,035	suspended
General Pet., No. 142 Goleta, Santa Barbara Co.	21- 4-28	1,040	suspended
Boles Oil Co., No. 140 Goleta, Santa Barbara Co.	22- 4-28	50	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	1,035	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	1,032	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	1,019	suspended
Macmillan Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	175	suspended
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29	mtl.	building pier
Caldwell Brown, No. 159 Goleta, Santa Barbara Co.	24- 4-29	25	suspended
El Camino Oil Co., No. 149 Goleta Tideland, Santa Barbara	22- 4-28	40	suspended
Standard, No. 2 Goleta, Santa Barbara Co.	X- 4-30	3,290	br. sh. drilling
Frazer & Oliver, No. 173 Capitan, Santa Barbara Co.	4- 4-30	101	suspended
McLaine, W. L., No. 175 Capitan, Santa Barbara Co.	4- 4-30	30	suspended
Durkee, R. S., No. 176 Capitan, Santa Barbara Co.	4- 4-30	30	suspended
Cunningham, W., No. 177 Capitan, Santa Barbara Co.	4- 4-30	30	suspended
Oakburn Oil Co., No. 168 Capitan, Santa Barbara Co.	4- 4-30	370	suspended
Oakburn Oil Co., No. 169 Capitan, Santa Barbara Co.	4- 4-30	200	suspended
Oakburn Oil Co., No. 170 Capitan, Santa Barbara Co.	4- 4-30	1,302	shut in
Oakburn Oil Co., No. 171 Capitan, Santa Barbara Co.	4- 4-30	300	suspended
Oakburn Oil Co., No. 172 Capitan, Santa Barbara Co.	4- 4-30	325	suspended
Indian Pet., No. 174 Capitan, Santa Barbara Co.	4- 4-30	230	suspended
Shell, No. 1 Rutherford, Santa Barbara Co.	1- 4-31	1,800	gr. sd. drilling
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	4,260	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	2,325	cleaning out
Standard, No. 1 Casitas, Santa Barbara Co.	26- 4-25	1,460	hd. sd. drilling
Continental, No. 1 Carpinteria, Santa Barbara Co.	33- 4-25	4,130	gas well—idle
Continental, Tideland permit No. 121, Santa Barbara Co.	33- 4-25	55	suspended
Continental, Tideland permit No. 122, Santa Barbara Co.	33- 4-25	158	suspended
Continental, Tideland permit No. 123, Santa Barbara Co.	33- 4-25	125	suspended
Continental, Tideland permit No. 124, Santa Barbara Co.	33- 4-25	2,600	deep test
Continental, Tideland permit No. 124-A, Santa Barbara Co.	33- 4-25	418	suspended
Continental, Tideland permit No. 125, Santa Barbara Co.	33- 4-25	120	suspended
Continental, Tideland permit No. 126, Santa Barbara Co.	33- 4-25	200	suspended
Continental, Tideland permit No. 127, Santa Barbara Co.	33- 4-25	145	suspended
Continental, Tideland permit No. 128, Santa Barbara Co.	33- 4-25	98	suspended
Continental, Tideland permit No. 129, Santa Barbara Co.	33- 4-25	97	suspended
Exeter Oil Co., Tideland permit No. 163, Santa Barbara Co.	32- 4-25	18	suspended
Getty, George F., No. 120 Carpinteria, Santa Barbara Co.	32- 4-25	68	cemented
Getty, George F., No. 130 Carpinteria, Santa Barbara Co.	32- 4-25	55	cemented
Shell, No. 4 Oxnard, Ventura Co.	36- 2-22	1,885	to abandon
Standard, No. 5-9 Saticoy, Ventura Co.	10- 2-22	8,529	sidetracking
Prairie Oil & Gas, No. 1 Ventura, Ventura Co.	30- 3-22	4,457	resume work
Bolsa Chica, No. 1-A Temescal, Ventura Co.	4- 4-18	2,000	set pipe
Fennell, E. A., No. 1 Lankershim, Ventura Co.	13- 4-19	1,460	sd. sh. drilling
General Pet., No. 1 Fillmore, Ventura Co.	6- 3-19	mtl.	building rig
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	1,488	hd. sd. drilling
Continental, No. 3 Sulphur Mountain, Ventura Co.	21- 4-22	6,569	to abandon
Calleguas Synd., No. 1 Camarillo, Ventura Co.	6- 1-20	rig	rigging up
Millham Expltn., No. 9 Buttonwillow, Kern Co.	8-28-23	4,990	deep test
General Pet., No. 1 Buttonwillow, Kern Co.	6-28-23	725	hd. sd. drilling
Lincoln Drlg. Co., No. 1 Buttonwillow, Kern Co.	17-29-24	135	suspended
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	1,995	gr. sd. drilling
The Texas Company, No. 1 Edison, Kern Co.	23-29-29	6,287	abandoning
Shell, No. 1 Edison, Kern Co.	33-29-29	3,363	hd. sd. drilling
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,130	suspended
Sayre, F. M., No. 1 Edison, Kern Co.	5-30-29	4,155	will test
Helen Pet., No. 1 Jasmine, Kern Co.	23-25-27	1,550	cleaning out
Moran & DeCamp, No. 1 Mojave, Kern Co.	26-10-14	190	hd. sd. drilling
Bardeen, H. A., No. 1 San Emidio, Kern Co.	18-10-23	515	br. sh. drilling
Bardeen, H. A., No. 2 San Emidio, Kern Co.	10-10-23	125	sd. sh. drilling
Currency Pet. Co., No. 1 Jacalitos, Fresno Co.	28-21-14	3,680	cleaning out
Knudsen, John, No. 1 Jacalitos, Fresno Co.	14-21-14	1,490	suspended
Petroleum Securities, No. 2 Huron, Fresno Co.	28-20-16	7,390	suspended
Fresno Madera Oil Co., No. 1 Clovis, Fresno Co.	18-12-21	4,290	resumed work
Rio Grande, No. 1 Kerman, Fresno Co.	35-13-16	....	location
Western Gulf, No. 1 Penoche Valley, Fresno Co.	26-15-12	4,000	sd. sh. drilling
Midwest Refining Co., No. 1 Huasna, San Luis Obispo Co.	34-31 15	3,905	cleaning out
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	4,019	fishing
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	27-27-11	3,742	cleaning out
Union, No. 1 King City, Monterey Co.	8-22- 8	3,045	br. sh. drilling
Standard, No. 1 King City, Monterey Co.	23-22- 7	3,780	hd. sd. drilling
Pacific Inland Oil Co., No. 1 Parkfield, Monterey Co.	19-23-15	781	cleaning out
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	2,560	sd. sh. drilling
Penn Western, No. 1 Tulare Lake, Kings Co.	24-21-18	1,338	suspended
Wellport Oil Co., No. 1 Devils Den, Kings Co.	9-24-17	3,288	sd. sh. drilling
Oceanside Oil Co., No. 1 Kreyenhagen, Kings Co.	32-22-16	300	suspended
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	2,540	oil sand
Barnhart Trust, No. 1 Oakdale, San Joaquin Co.	3- 2-10	2,704	hd. sd. drilling
White, Roy, No. 1 Pixley, Tulare Co.	8-23-26	4,020	suspended
Terminal Oil Co., No. 1 Tulare, Tulare Co.	29-20-25	4,198	suspended
Terra Bella Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	900	cleaning out
Getty, George F., No. 1 Chowchilla, Madera Co.	8-10-14	3,040	hd. sd. drilling

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Simmel, L. G., No. 1 Inglewood, Los Angeles Co.	21- 2-14	5,380	suspended
Raleigh Oil Co., No. 1 Malibu, Los Angeles Co.	1- 2-19	3,880	suspended
Clearwater Oil Co., No. 1 Bellflower, Los Angeles Co.	21- 3-12	5,150	suspended
Getty, George F., No. 1 Riviera, Los Angeles Co.	27- 2-12	4,790	hd. sd. drilling
O'Donnell, J. E., No. 1 Bandini, Los Angeles Co.	16- 2-12	....	location
Burlingham Pet., No. 1 Compton, Los Angeles Co.	17- 3-13	2,680	suspended
Diller, W., No. 1 Watts, Los Angeles Co.	8- 3-17	5,360	sd. sh. drilling
Crimson Pet., No. 1 Compton, Los Angeles Co.	22- 3-13	mtl.	suspended
Ohio, No. 1 Moneta, Los Angeles Co.	35- 3-14	895	cemented
Cal. Ventura Oil Co., No. 1 Manhattan, Los Angeles Co.	30- 3-14	5,415	br. sh. drilling
Archer Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	5,557	suspended
Harbor Oil Co., No. 1 Wilmington, Los Angeles Co.	18- 4-13	rig	suspended
Shell, No. 1 Van Nuys, Los Angeles Co.	19- 2-15	1,080	sd. sh. drilling
Anchor Oil Co., No. 1 Puente, Los Angeles Co.	19- 2-10	4,820	suspended
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	3,650	reaming
Sherman, J. W., No. 1 Puente, Los Angeles Co.	33- 2- 8	850	suspended
Keck & Hall, No. 1 Puente, Los Angeles Co.	32- 2- 8	1,130	gas well
Marcel Pet. Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	1,660	suspended
Richfield Oil Co., No. 1 Puente, Los Angeles Co.	34- 1-10	....	location
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	1,950	suspended
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	2,575	sd. sh. drilling
Martin, J. W., No. 1 Newhall, Los Angeles Co.	22- 1-17	1,290	br. sh. drilling
Consolidated Oil Co., No. 1 Newhall, Los Angeles Co.	8- 3-16	1,555	cemented
National Sec., No. 1 Newhall, Los Angeles Co.	1- 3-16	874	suspended
Anderson, P. B., No. 1 Hasley Canyon, Los Angeles Co.	1- 3-16	900	suspended
Pioneer Pet., No. 1 Newhall, Los Angeles Co.	14- 3-16	1,960	hd. sd. drilling
Union, No. 1 Coyote, Sansinena, Los Angeles Co.	30- 2-10	2,676	br. sh. drilling
Beard, G. F., No. 1 Brea Canyon, Los Angeles Co.	30- 2- 9	1,099	suspended
Western Gulf, No. 1 Brea Canyon, Los Angeles Co.	28- 2- 9	3,865	br. sh. drilling
Standard, No. 1 Bastanchury, Coyote, Orange Co.	21- 3-10	4,860	sd. sh. drilling
Graham & Loftus, No. 1 Coyote, Orange Co.	18- 3- 9	1,030	sd. sh. drilling
Union Oil Co., No. 1 Richfield, Orange Co.	13- 3- 9	3,725	diabase
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910	test plug
Oil Well Eng. Co., No. 1 Newport, Orange Co.	21- 6-10	2,795	suspended
Fidelity Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	701	cleaning out
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,560	suspended
Imperial Valley Oil Co., Well No. 1, Imperial Co.	32-11-10	2,980	suspended
San Marcos Oil Co., Well No. 1, San Diego Co.	9-12- 3	rig	suspended
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	2,170	suspended
McGregor Synd., No. 1 Del Mar, San Diego Co.	17-14- 3	1,250	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13- 4	2,200	sd. sh. drilling
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16- 3	550	cleaning out
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,525	fishing
Duncan, N. I., No. 1 Mohave, San Bernardino Co.	8- 4- 6	rig	suspended
Girard & Grimes, No. 1 Corona, San Bernardino Co.	8- 2- 8	909	sd. sh. drilling

Jal Well Making 50,000,000 Feet of Gas

Utah Tests Resuming After Winter. Colorado Disappointment South of Iles Dome. Salt Creek Test in Amsden

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Mar. 31.—Southeastern New Mexico reported one completion in the Empire Gas & Fuel Co.'s No. 2 Lindley, in the Jal Pool, which was made into a gas well after shutting off bottom water. It was estimated at 50,000,000 feet a day. Cranfill & Reynolds' No. 1-C State, in the Cooper area in Lea County, half a mile northeast of the 1,600-bbl. well recently completed by the Texas Pacific Coal & Oil Co., is showing 4,000,000 feet of gas a day at 3,419 feet. Henderson, Dexter & Blair's No. 1 Arnold, 1½ miles southwest of the discovery well in the Maljamar Pool in Eddy County, ran into sulphur water at 3,675 feet and is plugging back. The Southern Union Gas Co. has a gas well, estimated at 2,000,000 feet a day in the Kutz Canon district in San Juan County, in the Picture Cliff formation.

The Kane County test of the Midwest Refining Co. in southern Utah is drilling close to its first objective and several operations which were idle during the winter are resuming in that State.

Colorado had a disappointment in Thomas McLaughlin and others' No. 1 Williams, which tested a fault block south of the Iles Dome, found water in the Sundance and went 53 feet into the White Cliff formation at a total depth of 4,515 feet. A test is to be drilled in the South Park area in central Colorado at an elevation of nearly 10,000 feet above sea level. An unconfirmed report tells of a gas strike in La Plata County, in the southwestern corner of Colorado. The Indian Territory Illuminating Oil Co.'s deep test in northeastern Colorado is spudding.

The deep well being drilled in the Salt Creek Field has passed out of the Tensleep after cutting 200 feet of saturated limestone and is 125 feet in the Amsden which failed to show any oil. There is some water in the hole. The Tensleep test on the Mahoney Dome in Carbon County is rated good for 75 bbls., but will be shot or drilled deeper. The Mountain Fuel Supply Co. completed an 8,000,000-foot gas well on the South Baxter Basin Dome in its No. 1 Union Pacific. The Ohio Oil Co.'s second well on the Shoshone Dome in Park County, Wyoming, is pumping 70 bbls. a day from the Embar.

The wildcat at Payette, Idaho, which had a gas blowout two weeks ago, repeated the performance on a bigger scale last Sunday.

NEW MEXICO

The New Mexico Oil Men's Protective Association, which was organized about three months ago, is making an active drive for membership. William Dooley, secretary, has announced the complete official personnel of the association following the selection of the executive committee, as follows: James McDowell, Albuquerque; V. S. Welch, C. J. Dexter of Artesia; W. A. Moore, Frank Dauron and D. D. Bodie of Carlsbad; E. E. Jack of Clovis; Hugh A. Roberts of Elida, Dr. H. E. Elliott of Fort Sumner; Perry Coon of Gallup; H. B. Wright and M. B. Stevens of Las Cruces; J. S. Eaves and B. A. Christmas of Lovington; Paul M. Jones of Portales; Keith Crouse, F. F. E. Levers, A. N. Etz, Ross Malone and S. P. Hanifin of Roswell; T. N. Espe, Frank Staplin and L. E. Elliot of Santa Fe.

The nine executive committeemen are: W. A. Nicholas, Powhatan Carter, Harry Leonard and J. P. Cusack of Roswell; M. W. Evans, A. C. Brown, William Dooley and Martin Yates of Artesia, and C. D. Woolworth of Jal.

The only completion reported in southeastern New Mexico was the Empire Gas & Fuel Co.'s No. 2 Lindley, NE cor. SE, Section 14-25-36, in the Jal Pool in Lea County, which last week was showing some water with oil, there being about 30 per cent water and basic sediment in the 800 feet of fluid in the hole at a total depth of 3,337 feet. It was plugged back and made into a gas well with an open flow capacity of 50,000,000 feet a day at 3,310 feet. It was spraying some oil with the gas.

Hobbs Area—Lea County

Tentative locations have been made in the Hobbs area for two or three wells by the Midwest Refining Co., but authorization has not yet been given for drilling. The Ohio Oil Co.'s No. 1 State-Northrup, NE NW SE, Section 32-18-38, which is approximately 1½ miles each way northwest and southeast of producers, is the deepest drilling well in the field and is making hole at 2,550 feet. It had 500,000 feet of gas per day at 2,345 feet. The salt, topped at 1,616 feet, was bottomed at 2,493 feet. The Shell Petroleum Corp.'s No. 1 State, SE SW NE, Section 32-18-38, which offsets the Ohio well on the north, is drilling in anhydrite at 1,500 feet. It topped the anhydrite at 1,500 feet. The Shell's No. 1 McKinley, SW cor., Section 19-18-38, is spudding at 40 feet, and the Texas Pacific Coal & Oil Co.'s No. 1-G State, SE cor., Section 24-18-37, is building rig. The Amerada Petroleum Corp.'s No. 1 McKinley, NW cor., Section 30-18-38, also is building rig. The three last named wells are offsets to each other. The Ohio Oil Co.'s No. 1 State, NE cor. SW, Section 30-18-38, is standing after rigging up, and the Hobbs High, Inc.'s No. 1 Tatum, NW SW SW, Section 35-18-38, is building standard rig after drilling to 275 feet with a machine. Fisher & Lowrie's No. 1 State, NE cor. NW, Section 11-18-36, west of the Hobbs Pool, is shut down at 3,400 feet in anhydrite repairing rig.

Tatum Area—Lea County

A. D. Morton and others' No. 1 State, C NW, Section 32-11-38, is drilling at 4,430 feet in lime. Top of the lime was at 4,400 feet, elevation 3,901 feet.

Eunice Area—Lea County

The Continental Oil Co.'s No. 1 William Meyer, SW cor. NW, Section 28-22-36, is running solid straightreamer at 3,593 feet trying to straighten up hole. Total depth is 3,750 feet. It has been unable to make new hole for nearly four months. The Empire Gas & Fuel Co.'s No. 1 Closson, NE NW SE, Section 6-22-36, is fishing for tools at a total depth of 3,869 feet. It made 55 bbls. of oil in 6½ hours on March 12. The Ohio Oil Co.'s No. 1 State-McDonald, SW NW SW, Section 15-22-36, is rigging up cable tools.

Cooper Area—Lea County

Cranfill & Reynolds' No. 1-C State, SW SE SW, Section 16-23-36, half a mile northeast of the producer completed recently in the Texas Pacific's No. 3 State, is drilling at 3,495 feet in hard gray lime. It had a show of gas at 3,282-92 feet and another show at 3,325-30 feet. The gas increased at 3,364 feet and was estimated at 4,000,000 feet a day at 3,416-19 feet. The Texas Pacific Coal and Oil Co.'s No. 4 State, NW NE NW, Section 21-23-36, is rigging up.

Lea Area—Lea County

Cranfill & Reynolds' No. 1-D State, SE cor., Lot 6, Section 3-21-33, is drilling at 3,310 feet in salt, anhydrite and potash.

Maljamar Area—Lea County

The Maljamar Oil & Gas Co.'s No. 3 Baish, SE NE NW, Section 21-17-32, has rig up.

Eddy County

Henderson, Dexter & Blair's No. 1 Arnold, NE SE SE, Section 23-17-30, 1½ miles southwest of the discovery well in the Maljamar Pool, ran into sulphur water at 3,675 feet, the water rising 120 feet in the hole. It will be plugged back to test the oil shows in upper horizons. At 3,250 feet it had 1,800 feet of oil in the hole. Lockhart & Co.'s No. 3 Parke, C SE SW, Section 15-17-30, is shut down at 40 feet, and Leonard & Levers' No. 2 State, SE cor. NW, Section 21-17-29, is drilling at 2,307 feet in sandy lime. It had 300,000 feet of gas per day at 2,289-97 feet. Flynn, Welch & Yates' No. 2 Stevens, NW NE SW, Section 13-17-30, is drilling at 2,755 feet in hard lime, and L. M. Lockhart and others' No. 2 Wooley, NE cor., Section 28-17-30, is drilling at 3,413 feet. The Pueblo Oil Co.'s No. 5 Russell, SW cor. NW, Section 18-17-31, is bottomed at 515 feet, at which depth the 12½-inch was cemented. It had fresh water at 475-80 feet. Henderson, Dexter & Blair's No. 1 Grier, SW cor. NW, Section 21-16-31, is drilling at 1,990 feet in anhydrite.

In the Artesia area, Flynn, Welch & Yates' No. 57 State, NE cor. SE, Section 19-19-28, is drilling at 3,335 feet in lime.

In the southwestern area, F. B. Van Horn's No. 1 Santa Fe, SE SE, Section 18-19-26, is fishing for tools at 1,665 feet, and R. D. Compton's No. 1 State, SW cor. NW, Section 2-20-25, is drilling at 1,085 feet in lime.

Chaves County

The Cactus Petroleum Co.'s No. 1 State, SE cor., Section 14-10-26, is drilling at 2,068 feet in lime.

San Juan County

In the Kutz Canon area in San Juan County, the Southern Union Gas Co.'s No. 3 Garland, SW NE NE, Section 11-28-11, topped the Picture Cliff at 1,824 feet and suspended drilling at 1,960 feet, 136 feet in that formation. When the water was bailed down to about 400 feet off bottom, the hole cleaned itself and is making approximately 2,000,000 feet of gas per day. This lease was taken over by the Southern Union from the Angel Peak Oil Co. which encountered a similar flow of gas in the Picture Cliff, but continued drilling in an effort to test the Mesa Verde sands. At 3,050 feet it had considerable gas which became ignited and burned the rig. When the Southern Union took charge it installed a rotary in an effort to clear the hole of the 8¼-inch tools, but was unsuccessful and plugged the hole and skidded the rig 50 feet. The company is building up gas reserves for its projected line into central New Mexico. The rotary will be moved to another location as soon as the present well is completed.

McKinley County

The two operations of S. Dysart and others in the Ambrosia Lake district, which have been idle for a long time, are reported resuming. No. 1, SW cor., Section 21-14-9w, has been shut down for about a year at 1,699 feet on top of a sand which showed some saturation.

(Continued on Page 138)

ALBERTA PRODUCES MILLION BARRELS, MORE THAN DOUBLING DURING YEAR

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Mar. 29.—Revised official figures compiled by the federal department of the interior show an aggregate crude oil and crude naphtha production of 999,152 bbls. for Alberta in 1929. The 1928 production of 489,531 bbls. was more than doubled in 1929. Of the 1929 production, 981,221 bbls. came from the Turner Valley Field. The Wainwright Field produced 12,332 bbls. The Ribstone Field, in eastern Alberta, with one well, made 2,839 bbls. and the Skiff Field near the international boundary showed 1,432 bbls. The new Red Coulee Field, which came into production toward the close of 1929, produced 1,328 bbls. from one well.

In the Turner Valley Field the latest reports show a record total of 22 wells working in the lime. Of these, 11 belong to the Imperial group. Some 14 tests are in the South Turner Valley, seven in the central field, and one in the north. In addition, two or three tests previously productive are deepening or doing other work to restore production. At least eight of the deep lime tests are drilling close to the potential producing horizon. Several are beyond the usual horizon without getting satisfactory production.

Home Oil Co. Operations

Among the South Turner Valley tests in the Imperial Group, Home Oil Co.'s No. 5 LSD 7, Section 20-19-2w5 recently got the lime at 4,480 feet. This is the farthest south of the Home tests to get the lime, and the shallowest to make the contact, being more than 1,000 feet shallower than No. 2.

Activities of the Home Oil Co. were reviewed at the annual shareholders meeting just held at Vancouver, B. C. The Home acreage is being drilled by Imperial Oil, Ltd. The company now has four producing wells with a fifth in the lime. The directors' report showed net earnings for the 13 months ending December 31, 1929, were $1,131,785, compared with $12,159 for the previous year when the company was taking a small light crude production. Directors re-elected were: Arthur Meighen, Col. E. G. Hanson, R. H. B. Kerr, W. C. Shelly, Gen. J. W. Stewart, W. H. Malkin, Col. Nelson Spencer, J. W. deB. Farris, G. V. C. Cummings, Stanley Burke, George Harrison, Maj. James R. Lowery, Fergus R. MacDouald. New directors were: J. C. Gage, Winnipeg; Vernon W. Smith, Edmonton; P. Burns, George M. Bell, Calgary; Gen. Victor W. Odlum, W. J. Blake Wilson, A. L. Hager, Vancouver.

Imperial Operations

In the South Turner Valley, two tests of the Imperial group which have shown inconclusive results in the lime will be shot, Mayland Oil Co.'s No. 1, LSD 10, Section 17-19-2w5, and Baltac Oil's No. 1, LSD 13, Section 20-19-2w5. This test is in the same section but north and west of the Home producers. To the extreme south, Sterling Pacific Oil Co.'s No. 1 LSD 15, Section 33-18-2w5, is preparing to take production after it cleans itself out following a shot. After

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Largest Gas Well in the Yates Field

Estimated More Than 80,000,000 Feet. Increased Activity in Loving County. New Locations in Ector County

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Mar. 31.—Pecos County registered a drop of a little over 4,000 bbls. per day this week, while all of the other counties in the Permian Basin held practically level, except Ector County, which chalked up another gain over the previous week. The Penn Pool showed a small increase of about 300 bbls., but next week a larger gain will no doubt be brought about by the completion of several wells which are about due for completion. The basin as a whole showed a drop of 4,983 bbls., Pecos County accounting for practically all of this difference. Winkler County fell about 700 bbls. from the previous week's figures.

But while production was off in the basin, distribution showed a gain over the past period, pipe line runs and refinery runs both increasing, distribution for the last period drawing about 25,000 bbls. per day from storage.

Big Yates Gasser

One of the most interesting features of the basin for the week was the completion of the largest gasser in the Yates Field, Pecos County, the well testing more than 45,000,000 feet on an official gauge, but the gauge not being heavy enough to give an accurate record. The well was estimated good for more than 80,000,000 feet per day, but the exact amount will be verified when another test is made. The well belongs to the Transcontinental Oil Co. and Arkansas Fuel Oil Co., and is 2,310 feet from the north and 1,290 feet from the east of Section 11, Block 194, G.C.&S.F. Survey, approximately 1 mile west of the nearest production which is owned by the same companies. It is on the extreme western side of the Yates Field, and may be called a mile extension well. The first gas was encountered at 1,465 feet, 1,000,000 feet coming up the hole. At 1,470-80 feet there was an increase to 6,000,000 feet, at 1,488-90 feet there was another increase to 15,000,000 feet and at 1,490-1,505 feet there was another increase to 25,000,000 feet. At 1,520 feet the largest volume was struck. It blew the tools out of the hole with such force that they wrecked the derrick. It is showing no oil or water.

Atlantic Oil Producing Co.'s No. 1 Shearer, in Section 107, Block 10, H.& G.N. Survey, Pecos County, has been plugged back from a total depth of 1,488 feet to 1,459 feet to shut off water, but failed in a shut off, so will be plugged back farther to test water shut off. This well topped the Masterson pay at 1,438 feet a few weeks ago and produced at the rate of better than 125 bbls. per day, but upon deepening encountered sulphur water at 1,465 feet. It is the second test to show up as a producer. The discovery well is producing around 30 bbls. per day. One other test to the south in Section 105 was a dry hole.

Southern Crude Oil Purchasing Co.'s No. 1 McKenzie, in Section 10, Block 804, G.C.&S.F. Survey, 3 miles south of the Taylor-Link Pool, Pecos County, is now plugging back to 1,525 feet to complete as a gasser after drilling to a total depth of 2,315 feet and encountering sulphur water at 2,225-30 feet. Six to eight million feet of gas was struck at 1,492-97 feet, but decreased to practically nothing after sulphur water was struck; however it is believed that the gas can be revived by a water shut off.

Disappointment in Upton

A disappointment was registered in eastern Upton County in Texas Pacific Coal & Oil Co.'s No. 1 Belcher, 1,320 feet from the north and 2,310 feet from the west of Section 10, G.C.&S.F. Survey. This test was on a supposed "high" which was extensively core drilled by the Shell Petroleum Corp., but top of the big lime was found at 3,620 feet, showing a datum elevation of about 936 feet, consequently ran lower than expected. Sulphur water was found from 3,670-95 feet, and the test is now shut down at the latter depth. It will probably be carried deeper as the company has a contract with Shell Petroleum Corp. to go to 4,000 feet. The test is about 8 miles northwest of the Big Lake Field.

Loving County has been the scene of considerable activity since the Independent Oil & Gas Co. completed a good well on the eastern side of the field a few weeks ago, and this week the Dixie Oil Co. was reported to have purchased a half interest in the Phillips Petroleum Co.'s block in the southeast part of Block 54, Township 2, T.&P. Survey. The Phillips block consists of 11,000 acres. A test will be drilled by the company on the block to 4,500 feet. The Wheat Field is the only producing area in the county, the oil being sweet and of high gravity from pay encountered below 4,200 feet.

Ward County Wells

Ward County assumed some interest when Atlantic Oil Producing Co. and Dorr's No. 1 Costley in Section 2, J. Howe Survey, 2½ miles southwest of the Penn and Atlantic's No. 1 Bennett, encountered the pay at 2,612-14 feet and made four small heads, totaling about 50 bbls. of oil. It is now cleaning out about 300 feet off bottom, the hole caving badly. One million feet of gas is coming from 2,602-03 feet. The pay correlates with that found in the Bennett wells at 2,562 feet.

Sid Richardson's No. 1 O'Brien in the NW cor., Section 5, Block F, G.M. M.B.&A. Survey, northern Ward County, is shut down at 2,678 feet after encountering showings of oil from 2,555-62, 2,585-98, 2,615-31 and 2,660-70 feet, and a showing of gas at 2,573 feet. Three 500-bbl. tanks are being erected for storage.

Ector County Locations

Ector County got another interesting location in the Skelly Oil Co. and Republic Production Co.'s test on the McKenzie farm in the SW Section 28, Block 45, T-2-S, T.&P. Survey. Footage of the test is 990 feet from the south and 330 feet from the east lines of the section, a south offset to Texas Pacific Coal & Oil Co.'s No. 1 McKenzie which is drilling below 450 feet. The latter test is the farthest north in the Penn area, and if a producer will extend the pool approximately 2 miles to the northwest.

The Texas Company and Cosden Oil Co. also staked an interesting location in the SE Section 1, Block B-16, Public School Land, 1½ miles west of production in the Penn Pool. This test is known as No. 7 Connell. It is about 2 miles northeast of their small producers in Section 13.

The latest well in the Penn Pool to show up as a producer is Humble Oil & Refining Co.'s No. 2 R. L. York in the NW Section 16, Block 44, an east offset to Landreth Production Co.'s No. 1-S University. The Humble well topped the pay at 3,614 feet and is now shut down at 3,690 feet, flowing 210 bbls. the first 16 hours and 191 bbls. in 24 hours ending 7 a. m., March 30.

The Phillips Petroleum Co. is reported to have purchased from M. H. Reed his one-half interest in the N half of S half of Section 1, Block 35, University Survey, Penn Pool for $75,000 cash and $250,000 in oil. The Simms Oil Co. owns the other half interest and is operating the lease.

The University Lease Board sold the W half of N half of Section 2, to the Skelly Oil Co. for $77,775, eight acres, and the S half of N half of Section 3 to the Transcontinental Oil Co., 160 acres for $96,000. These contracts also call for $1 per acre per year rentals with one-sixth royalty on all oil produced and one-eighth royalty on gas.

Glasscock and Howard

World Oil Co.'s No. 1-C McDowell, the discovery well in northern Glasscock County, completed about a year ago at a total depth of 2,381 feet is now being deepened. It is drilling at 2,410 feet with no increase in oil. No. 2-C McDowell was shot with 5 quarts from 2,440-50 feet with 20 quarts from 2,445-50 feet and 15 quarts from 2,375-90 feet, but apparently with no results from any or all of the three shots.

The Sinclair Oil & Gas Co. has made a location on the Dodge estate in the eastern part of Howard County for its first test in the Permian Basin. The test is to be made on a lease in the SE cor. NW. Section 11, Block 30, 1-S, T.&P. Survey. Leases on this acreage soon expire, therefore the drilling of the test.

Mid-Tex Oil Co.'s No. 1 King, 300 feet east of the river and 800 feet south of the north line of Subdivision 1, Section 197, Manuel Bueno Survey, north of the town of Hawley in Jones County now looks good for about a 20-bbl. well. It topped the oil sand at 1,980 feet and at 1,981 feet had 800 feet of oil in the hole. Five-inch casing is now being underreamed, preparatory to drilling in the well. Gravity of the oil tests 36. This test is in an area where several good oil showings have been encountered, but so far no producers have been completed. If it makes a commercial producer it will open another producing area for Jones County, on absolutely wildcat acreage.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended March 31

Company, farm and location—	Remarks—
ANDREWS COUNTY	
Deep Rock Oil Co. et al's No. 1 Mathis, 990 ft. from S and W, Sec. 4, Blk. A-46, Public School Land	Total depth 965 ft.; underreaming 12½-in. casing.
Deep Rock Oil Co.'s No. 1 Miles, 990 ft. S, 1,650 ft. E. of NW cor., Sec. 22, Blk. A-46, School Land	Underreaming 12½-in. casing; total depth 1,010 ft.
Fuhrman Pet. Corp.'s No. 1 Ford, 440 ft. from S and 2,200 ft. from W of Sec. 16, Blk. A-43, Public School Land	Set 12-in. casing 770 ft.; drlg. ahead 830 ft.
Deep Rock Oil Co. et al's No. 1 King, 330 ft. from N and 2,310 ft. from E, Sec. 11, School Blk. A-46	Carrying 12½-in. casing; topped anhydrite 1,635 ft.
R. R. Penn's No. 1 Wilson, C, Sec. 20, Blk. A-37, School Blk.	Building rig.
BORDEN COUNTY	
Moncrief et al's No. 1 Munger, 1,980 ft. from N and E, Sec. 15, Blk. 31, Twp. 4n, T.&P.R.R. Sur.	Shut down 3,517 ft.; 1 bbl. water hourly 3,418-28 ft.
Phillips et al's No. 1 Goode, 330 ft. N and E of SW cor. SE of Sec. 46, Blk. 33, Twp. 4n, T.&P.R.R. Sur.	Drlg. 1,660 ft.; top salt 1,400 ft.;
Teas & Wheeler's No. 1 Long, 1,320 ft. N and E of Sec. 27, Blk. 30, T.&P. Sur.	Top salt 1,080 ft.; shut down 2,540 ft.
BREWSTER COUNTY	
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Shut down 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 1,250 ft.; hole full water 1,135-85 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.&S.F. R.R. Sur.	Show oil 1,830 ft.; shut down 2,095 ft.
Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,740 ft.
COKE COUNTY	
Arkansas Fuel Oil Co.'s No. 1 Stepp, 1,020 ft. NE, 2,340 ft. W of SE cor., Sec. 35, Blk. 1-A, H.&T.C. Sur.	Rig.
Cates & Fitzhugh's No. 1 Mimms, 660 ft. N and W of SE cor., Sec. 39, Blk. W, T.&P.R.R. Sur.	Location.
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Shut down 2,892 ft.
CONCHO COUNTY	
Duffy et al's No. 1 Callan, 1,520 ft. N and 1,120 ft. W of SE cor., Sec. 21, Blk. 10, H.&T.C.R.R. Sur.	Spudded and shut down.
Turner et al's No. 1 Borsig, 150 ft. from S of NE cor., G. Emmig Sur. 130, 6 mi. W of Paint Rock	Shut down 735 ft.
Watchorn Oil & Gas Co. et al's No. 1 Noyes, 1,320 ft. from N and W of Sec. 19, Blk. 70, H.&T.C. Sur.	Spudding.
CRANE COUNTY	
Cranfill et al's No. 1 Tubb, 2,310 ft. from N and 330 ft. from E of Sec. 8, Blk. B-27, Public School Land	Rigging up.
Duffy et al's No. 1 Cowden et al, 660 ft. from S and W lines of Sec. 18, Blk. X, C.C.S.D.&R.G.N.G. Sur.	Running 8¼-in. casing; drlg. 2,105 ft.

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WEST TEXAS PRODUCTION

Week Ending March 29

County—	No. Wells	Bbls.
Andrews County	1	172
Crane County	337	35,910
Crockett County	46	1,680
Fisher County	7	800
Ector County	9	4,185
Garza County	5	48
Glasscock and Howard	500	38,535
Jones County	73	1,350
Loving County	20	1,215
Mitchell County	145	2,300
Pecos County	434	136,370
Reagan County	253	16,725
Runnels County	3	15
Scurry County	5	21
Upton County	253	9,245
Ward County	25	1,680
Winkler County	605	87,825
Total this week	2,721	338,076
Total last week	2,707	343,059
Difference	14	4,983

WEST TEXAS COMPLETIONS

Week ending March 29

Andrews County

Deep Rock Oil Co.'s No. 1 Ogden, located 2,310 feet east, 300 feet south of NW cor., Section 6, Block A-46, was drilled to a total depth of 4,428 feet, topped the pay at 4,345-48 feet and estimated 1,000,000 feet of gas at 4,165-75 feet, had a slight show of oil 4,305-09

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Gray County Extension Spraying Oil

Producer Between Huggins and Bulcher Pools in Cooke County. First Deep Producer in Donnell Pool, Stephens County

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Mar. 31.—Gray County showed a drop of 3,250 bbls. this week from last week's production figures, Hutchinson County also registered a small decrease, helping bring the Panhandle production down from 93,645 bbls. to 89,945 bbls. this week, a drop of 3,700 bbls. per day, while the Wichita Falls district chalked up a 2,225-bbl. increase, Wilbarger County making up 2,000 bbls. of this amount.

Operators Royalty Co.'s No. 1 H. J. Eddington, in the NE cor. NW, Section 34, Block B-2, H.&G.N. Survey, the semiwildcat well in Gray County which has been showing up good for an extension well, is now spraying 30 bbls. of oil per day from a total depth of 3,023 feet. Top of the granite wash pay was logged at 2,937-45 feet, and an increase in pay was found at 3,020-23 feet. It will probably be drilled to 3,050 feet before being completed. It is 2½ miles southwest of LeFors.

The Sun Oil Co. has the making of an extension producer between the Huggins and Bulcher Pools in Cooke County. The test is on the Milburn farm 700 feet east of Kewanee Oil & Gas Co.'s 15-bbl. producer. The Sun well is making 25 bbls. of oil and between 75 and 100 bbls. of water per day. It is on the Milburn 80-acre tract in the Joseph De Gurrie Survey. The American Refining Co. drilled a dry hole to the west of the Kewanee discovery, and it now looks as if production in this new area would run to the east and probably to the north and to the south towards the two mentioned pools.

Montague County Test

Bridwell Oil Co.'s No. 2 J. S. Dennis, 400 feet east of its No. 1, the discovery well of this semiwildcat area in Montague County, now looks as if it would be a "duster" as it is drilling at 1,905 feet with no indications of making a commercial producer. It topped a sand at 1,759 feet and drilled sand to 1,766 feet, testing salt water with but a small showing of oil. The discovery well of this area, No. 1 Dennis in the Finis Robertson Survey, was completed for a 225-bbl. well and was the result of much activity in the vicinity.

In Shackelford County, Roeser and Pendleton's No. 1 Scott, in the C. Section 202, T.&P. Survey, topped an oil sand at 1,601 feet and filled up 900 feet with oil in 24 hours. It is now shut down at 1,608 feet estimated good for from 20 to 25 bbls. of oil per day. It is not believed to have reached the Cook sand yet. The well is approximately 8 miles west of the Cook Pool which was opened by the same operators, and is in an adjoining section to Section 201, where the Sedgwick Oil & Gas Co. brought in a 25-bbl. well several months ago, and opened a new area to production on the western side of Shackelford County.

Deep Producer in Stephens

The Texas Pacific Coal & Oil Co.'s No. 7 Donnell, 2 miles northeast of Eliasville in Stephens County, is the first deep test in the Donnell Pool to show for production. It is making 75 bbls. per day from pay encountered from 4,190-95 feet with 1,500,000 feet of gas. The Stovall pay or deep pay in the South Bend has not been reached yet, and the test will be drilled deeper. The regular pay in the Donnell Pool is found around 3,375 feet.

W. K. Hyer and others' No. 1 Patterson in the NE cor. SE, Section 78, Block 4, H.&T.C. Survey, encountered the Lake sand at 3,320-26 feet and is shut down at the latter depth making 4,500,000 feet of gas. The well is about a mile east of Cisco and is a western extension of production in this area in Eastland County. Production is now spread out almost all the way from the town of Eastland to the town of Cisco.

Another test in the Finis Robertson Survey, Montague County, may be noted as a good producer. It is the Arco Oil Co.'s No. 1-E Salmon in the southwest part of the survey, Abstract 620. Bottom of the hole stands at 1,742 feet, the well now being shut down for storage. It topped the oil sand at 1,712-42 feet and swabbed 300 bbls. the first 12 hours, helping to raise production in this area and the county.

Shackelford Test

Another interesting test in Shackelford County was Gibson and Johnson's No. 2 Simpson, 200 feet from the south and east of the SW NE, Section 3, Block 3, H.&T.C. Survey, in the northwest part of the county, approximately 500 feet southeast of their No. 1 which is producing 10 bbls. of oil per day from sand found around 1,500 feet. No. 2 well has been abandoned as dry at a total depth of 1,914 feet, missing the sand found in No. 1, although it picked up an oil sand with a small showing at 1,822-33 feet. This area is 5 miles south of Superior Oil Co.'s producing wells in southeast Haskell County.

The Humble Oil & Refining Co. is laying 10,000 feet of 2-inch line from two producing wells in Section 23, E.T. R.R. Survey, to the producer in Section 20, and 20,000 feet of 3-inch line from producing acreage in Section 20, E.T. R.R. Survey, to the Humble's Panhandle line.

Whitfield and others' No. 2 Sealy & Smith in Coleman County has been abandoned as a dry hole at a total depth of 3,220 feet. This area has two small producing wells, and several dry holes to its credit, but has been the cause of considerable activity in the vicinity. It is a few miles southeast of the town of Valera.

The George Pool, Brown County, produced 631 bbls. from 49 wells on March 26.

NORTH TEXAS PRODUCTION
Week Ending March 29

Panhandle district—	Prod.
Carson County	9,305
Hutchinson County	22,565
Gray County	56,440
Moore County	590
Wheeler County	445
Total this week	89,945
Total last week	93,645
Decrease	3,700
Wichita Falls district—	
Archer County	17,810
Baylor County	825
Clay County	800
Cooke County	4,355
Foard County	235
Jack County	4,225
Haskell County	60
Montague County	6,380
Throckmorton County	850
Wilbarger County	26,720
Young County	9,800
Wichita County	25,760
Total this week	97,820
Total last week	95,595
Increase	2,225
Ranger district—	
Brown County	7,845
Callahan County	3,670
Coleman County	5,005
Comanche County	440
Palo Pinto County	700
Eastland County	5,145
Shackelford County	6,435
Stephens County	6,695
Total this week	35,935
Total last week	37,240
Decrease	1,305
Grand total production this week	223,700
Grand total production last week	226,480
Decrease	2,780

RANGER COMPLETIONS
Week Ending March 29
Brown County

E. L. Smith Oil Co.'s No. 19 George had an initial production of 20 bbls. at 1,310-29 feet. Baker Brothers' No. 2 Hall was dry and abandoned at 527 feet after having an oil show at 502 feet and 511 feet. Brush & Robert's No. 1 Richardson was dry and abandoned at 1,438 feet.

Callahan County

Gibson & Johnson, Inc.'s No. 3 Jackson was dry and abandoned at 1,042 feet. Their No. 1 McDonald was dry and abandoned at 1,501 feet. Mook-Texas Oil Co.'s No. 4 Johnson had an initial production of 15 bbls. on the pump after having been shot with 20 quarts at 1,603-11 feet. Prairie Oil & Gas Co.'s No. 1 West was dry and abandoned at 1,250 feet. Shabeen and others' No. 1 Alvord was dry and abandoned at 502 feet.

Coleman County

Amerada Petroleum Corp.'s No. 1 Forman was dry and abandoned at 1,660 feet. Arcadia Refining Co.'s No. 1 Kingsberry was dry and abandoned at 1,718 feet. Jamison and others' No. 1 Lynch was dry and abandoned at 1,950 feet. Lloyd Oil Corp.'s No. 7 Bartholomew had an initial production of 50 bbls. at 1,426-33 feet. Permian Oil Co.'s No. 2 Reeves was dry and abandoned at 786 feet, and its No. 1 Reeves was also plugged. Whitfield and others' No. 2 Sealy & Smith was dry and abandoned at 3,220 feet. Tidal's No. 4 Stewardson had an initial production of 17 bbls. at 1,450-56½ feet.

Eastland County

Delaney's No. 1 Harbin was dry and abandoned at 940 feet after having a show of oil at 923-38 feet. Hyer and others' No. 1 Patterson had an initial

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WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending March 31

Company, well, farm, name, section and block—	Remarks—
CARSON COUNTY	
Champlin Ref. Co.'s No. 5 McConnell, 990 ft. S line, 330 ft. W line, N 120 ac., NW, Sec. 67, Blk. 4, I. &G.N. Sur.	Fishing 2,230 ft.
Danciger O. & R. Co.'s No. 1 Block, 330 ft. N and E lines, Sec. 112, Blk. 4, I.&G.N. Sur.	S.D. 2,985 ft.
Delmar Oil Co.'s No. 5 Noel, 330 ft. S and W, NE cor. W½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	S.G. 3,000-10 ft.; S.D. 3,131 ft.
Cockrell-McIlroy Oil Co.'s No. 1 Eller, 330 ft. S and W, NE cor. NW, Sec. 200, Blk. 3, I.&G.N. Sur.	Set 8-in. csg. 2,340 ft.
Cockrell-McIlroy Oil Co.'s No. 1 Simms, 330 ft. S and E, E 140 ac., N 160 ac., S 320 ac., Sec. 11, Blk. 7, I.&G.N. Sur.	Set 12-in. csg. 552 ft.
Empire G. & F. Co.'s No. 1 Bennett, C SE, Sec. 6, Blk. B-5, B.&B.R.R. Sur.	Drlg. 635 ft.
Empire G. & F. Co.'s No. 1 Thorp, C NW, Sec. 26, Blk. T, A.B.&M. Sur.	Drlg. 3,800 ft.
Empire G. & F. Co.'s No. 2 Deahl, C NW, Sec. 25, Blk. Y-2, G.B.&C.N.G.R.R. Sur.	Drlg. 1,220 ft.
Gulf Prod. Co.'s No. 1 Burnett-C, C SE SE, Sec. 35, Blk. 4, I.&G.N.R.R. Sur.	S.D. 2,755 ft; hard granite; 42,000,000 ft. gas.
H.A.M. Oil Co.'s No. 1 Cooper, 330 ft. S and W. E½ NE, Sec. 5, Blk. 9, H.&G.N.R.R. Sur.	T.D. 3,105 ft; 2,000 ft. oil in hole.
McClintock et als' No. 2 Garner, 330 ft. W and S of E 55 ac. of N 80 ac., NW, Sec. 105, Blk. 4, I.&G. N.R.R. Sur.	Rigging up and S.D.
Osborne et als' No. 3 Percival, 330 ft. N and W, SE cor. E½ NE, Sec. 199, Blk. 3, I.&G.N.R.R. Sur.	Drlg. 2,800 ft.
Pansota Oil Co.'s No. 1 Block, 330 ft. S and W, NE cor. SW, Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	S.D. 3,060 ft.
Phillips Pet. Co.'s No. 1-A Garner, 430 ft. S line, 330 ft. W, Sec. 114, Blk. 4, I.&G.N. Sur.	Drlg. 2,200 ft.
Phillips Pet. Co.'s No. 1 Pickens, 990 ft. E line, 230 ft. N line, NE cor., Sec. 31, Blk. 7, I.&G.N.R.R. Sur.	Rigging up.
Prairie O. & G. Co.'s No. 2 Nail, 330 ft. N and W lines, N½ E½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	10,000,000 ft. gas 2,830-2,985 ft.; S.D. 3,123 ft.
Ryan Cons. Oil Co.'s No. 7 Block, 330 ft. N, 990 ft. W, SE cor. NE, Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	S.D. 3,062 ft.
Shamrock O. & G. Co.'s No. 1 Thompson, 330 ft. S and W lines, E 80 ac., NE, Sec. 5, Blk. 7, I.&G.N. Sur.	Rigging up.
Shell Pet. Corp.'s No. 1 Percival, 330 ft. N and E. SE, Sec. 199, Blk. 3, I.&G.N. Sur.	S.D. 600 ft.
Skelly Oil Co.'s No. 19 Schafer, 330 ft. N, 990 ft. E, SW cor. NE, Sec. 198, Blk. 3, I.&G.N. Sur.	6,000,000 ft. gas 2,895-2,970 ft.; S.D. 3,100 ft. by agreement.
Skelly Oil Co.'s No. 20 Schafer, 330 ft. N, 990 ft. W, SE cor. N½, Sec. 198, Blk. 3, I.&G.N. Sur.	S.D. 3,090 ft.
L. W. Timm's No. 2 Garnet (White Deer), 330 ft. S and W, NE cor., Sec. 104, Blk. 4, I.&G.N.R.R. Sur.	S.D. 1,008 ft.
CASTRO COUNTY	
Colorado O. & R. Co.'s No. 1 Slemmons, SW cor., Sec. 73, Blk. M-17, B.S.&F. Sur.	Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur.	S.D. 510 ft. for csg.
CHILDRESS COUNTY	
Continental Oil Co. and Sun Oil Co.'s No. 1 Johnson, 660 ft. NE, Sec. 580, Blk. H, W.&N.W. Sur.	Drlg. 1,680 ft.
C. L. Sloane et als' No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.; C.O.
COCHRAN COUNTY	
Westbrook et als' No. 1 Slaughter, 400 ft. S and E, Labour 67, League 118, Knox Co. School lands	T.D. 5,036 ft.
COLLINGSWORTH COUNTY	
Shoupe Bros.' No. 1 Aldus, 410 ft. N, 330 ft. E, Sec. 96, Blk. 16, H.&G.N.R.R. Sur.	Drlg. 1,760 ft; show oil and gas 1,678 ft.
Shoupe Bros.' No. 1 Whitson, 330 ft. N and E. SW, Sec. 33, Blk. 12, H.&G.N.R.R. Sur.	Location.
DONLEY COUNTY	
Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. N line, 985 ft. E line, Sec. 22, Blk. E, D.&P.R.R. Sur.	T.D. 3,006 ft.; contract depth.
Marine Oil Co.'s No. 1 Sawyer, C SW, Sec. 5, Blk. G, G.C.&S.F. Sur.	S.D. 4,000 ft.
GRAY COUNTY	
Adams Oil Co.'s No. 4 Morse, 330 ft. S and W, NE cor., Sec. 3, Blk. 26, H.&G.N.R.R. Sur.	S.D. 2,495 ft.

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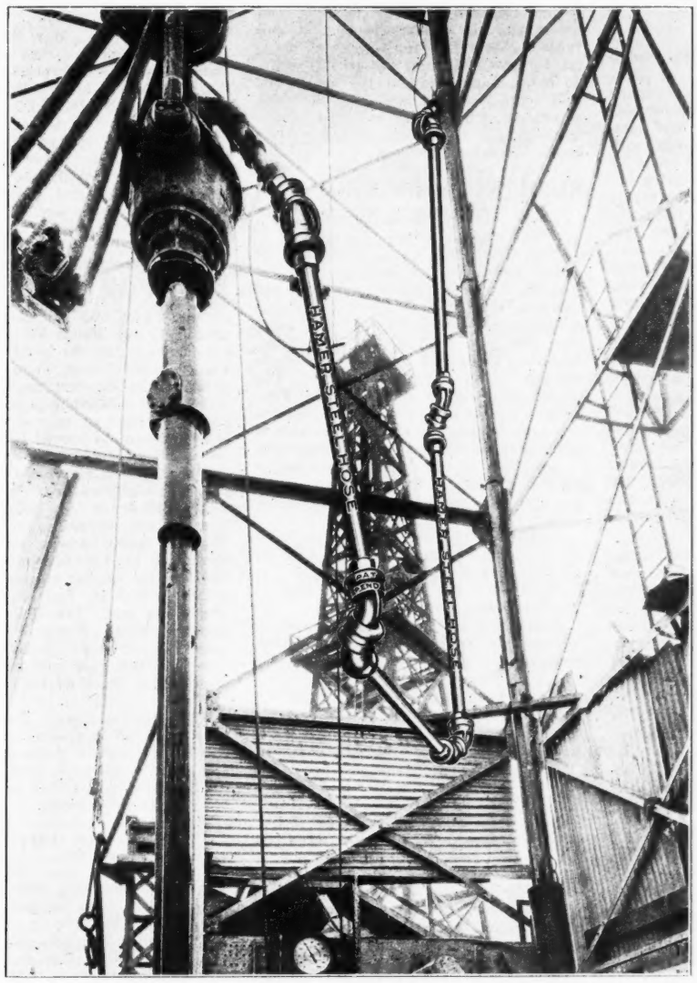
Swivels In Any Direction



The Hamer All-Steel Rotary Hose is absolutely guaranteed to stand all pressures that drilling pumps can put up. Made of drill pipe and steel casting; it is exceptionally strong.

The ball bearing construction of the Hamer All-Steel Rotary Hose permits the hose to swivel freely in all directions. It positively cannot bind. It has all the flexibility of rubber hose. There are no threads nor adjustments. The fluid passage through the joint is larger than the drill pipe used to make up the hose; consequently the fluid passage is not obstructed. High pressure does not affect its flexibility. It is almost as light as high pressure rubber hose. It is exceptionally good hose to cement wells with.

Write for illustrated folder.

HAMER OIL TOOL CO., LTD.

2911 Cherry Ave., Long Beach, California

Mid-Continent Distributors

The Thrift Company
Houston, Texas

The Iverson Company
Tulsa, Okla.

Hamer All-Steel Rotary Hose

Pipe Line Construction News

Texas-Empire Pipe Line Will Increase Flow to 74,000 Bbls.

The construction department of the engineering division has announced plans for building eight new pump stations for supplementing the 11 pump stations now in operation along the trunk line of the Texas-Empire company, from Lima, Okla., to the Chicago refinery territory. The capacity of the line will be increased approximately 50 per cent by the addition of the eight new "booster" stations.

The Texas-Empire pipe line has been in operation since October 1, 1929. It now is delivering 50,000 bbls. of crude oil daily to Lawrenceville, Story, Lockport and Lamont in Illinois and to East Chicago, Ind. Following the completion of the eight new stations the system will be able to handle approximately 74,000 bbls. of crude daily.

The new booster stations are to be at Sand Springs and Chetopa in Oklahoma; Sheldon, Cole Camp and Mexico in Missouri, and Baylis, Broadwell and Fairbury in Illinois. Either the station at Sheldon, Mo., or the one at Mexico, Mo., may be equipped with oil burning engines. Each of the others probably will be equipped with electric motors.

The new stations are located between nine of the more widely separated of the 11 existing stations which are at Cushing, Lima, Alluwe and Clematis in Oklahoma; Scammon, Kans.; Lowry City, Pisgah and Center, Mo., and Virginia, Heyworth and Wilmington in Illinois.

The Texas-Empire Pipe Line Co. system branches out in several directions at the northern end of the line. The extremity of the longest of those branches is 730 miles from Lima, Seminole County, Oklahoma.

NEW INDIANA LINES

NEW YORK, Mar. 29.—Silas M. Newton, president of the Indiana Southwestern Gas & Utilities Corp., announced today that Evansville, Ind., now is being served with natural gas from the company's fields through a new pipe line which has just been completed. Mr. Newton stated that the company is planning the construction of additional pipe lines besides those now serving Evansville, Vincennes, Princeton, Washington, Oakland City and Francisco, Ind.

LINES TO HOBBS POOL

FORT WORTH, Tex., Mar. 31.—The Humble Pipe Line Co. has started work on a line running into New Mexico from the southern border direct to Hobbs. This will bring a 10-inch line as far as Jal and then to the Hobbs Field with an 8-inch line from that point. Pipe at the southern end is now being welded.

The Shell Oil Co. has bought a line running to the state line on the south and will begin laying pipe within 20 days. It is stated that both lines will be running oil within 90 days.

NEODESHA PIPE LINE

Standard Oil Co. of Kansas will place its new 75-mile pipe line, hooking up several Kansas fields to the company's refinery at Neodesha, in operation early in April. The line will run 12,000 bbls. daily at the outset, although capable of handling 15,000 bbls. per day.

The Neodesha refinery has been enlarged and modernized, and is now equipped to handle up to 20,000 bbls. of crude per day. The company has closed a number of five-year contracts covering its crude oil requirements.

INCREASE IN DEMAND FOR STEEL EXPECTED

By B. E. V. Luty

PITTSBURGH, Pa., Mar. 31.—Additions to the seamless tube mill at Gary, Ind., of the National Tube Co., to make seamless tubing up to 24-inch outside diameter have been completed and samples of the product are to be seen, with walls as thin as five-sixteenths inch. No information is available as to price but it is understood the cost will be higher than the electrically welded line pipe which has sold so freely in the last couple years, it being left to the engineers to decide the advantages of seamless over other descriptions of line pipe. Seamless has been used in relatively small diameter lines, but until now the largest seamless made was 13⅜-inch outside diameter.

Pipe and tube mills continue operating at an average of 35 to 40 per cent.

The A. O. Smith Corp. is understood to have orders on books for about 800 miles of electrically welded line pipe, chiefly for natural gas. The largest single order is one recently placed, 300 miles for a gas line Kansas to Omaha and surrounding territory, involving about 60,000 tons of pipe.

A little further improvement is reported in demand for standard or merchant pipe, of seasonal character. The expectation remains that pipe for the natural gas line from Texas to Chicago will be ordered shortly, making a record large order. Various smaller gas piping projects have been on foot, and it looks as if several additional gasoline lines would be laid.

The volume of steel business is now approximately stationary. Material decreases came to an end a week or two ago. Peak production of steel occurred at about the middle of February, since when there has been a decrease in tonnage output of about 10 per cent, the rate in the last couple of weeks having been slightly over 75 per cent of full capacity. While the decline in demand seems definitely to be ended there is no sign of any increase. A common expectation is that there will be seasonal increase in demand in enough consuming lines to bring about heavier steel production within the next month or two.

In the past few years the Department of Commerce has taken over certain statistical activities of trade associations as to orders, production, shipments, etc., and has set up some activities of its own. Reports for January and February covering certain steel consuming lines show heavier trade than might have been supposed. Comparing January and February last year and this, two lines show increases, shipments of steel barrels increasing 5.6 per cent while fabricated structural steel bookings increased nine-tenths of 1 per cent. Orders for fabricated steel plate decreased 16 per cent in tonnage, while orders for steel boilers, in square feet, decreased 18 per cent. The value of steel furniture shipments, including the "business group" and shelving, decreased 23 per cent.

February automobile production as officially reported was 5 per cent less than the preliminary statement made in the trade, and amounted to 339,510 cars and trucks, United States and Canada. This was decidedly light and March has been doing but little better. The industry has no hopes of doing as well as in 1929 but there were predictions that 1928 production might be duplicated this year.

Steel prices do not show any particular degree of firmness in some lines but there are no quotable declines. Shapes and plates are easier than bars. Numerous contracts for bars for second quarter have been made at 1.85 cents, which also is the prevailing quotation on prompt carloads.

The ambition of sheet mills a few weeks ago to advance black and galvanized sheets $2 a ton for second quarter is now forgotten, the market being no more than steady at the old prices, 2.65 cents for black and 3.30 cents for galvanized. Pipe prices are held rigidly by mills and there is little irregularity in the secondary market.

RUSH WORK ON LINE OF P. G. & E. SYSTEM

LOS ANGELES, Calif., Mar. 29.—The major portion of the system for the extension of natural gas into central and northern California by the Pacific Gas & Electric Co. is installed. Crews totaling over 600 men working at Los Banos, Manteca, Tracy and Livermore are rushing the Valley line to completion. The project calls for an expenditure of $26,000,000 and is scheduled to be completed this year, making natural gas available to practically all consumers of the company.

According to the tentative completion schedule calculated by the company engineers the line will be completed as follows:

Valley line to Tracy, May 1; to Richmond, August 1; and the Tracy-Milpitas tie line, May 1.

Sacramento line to Stockton, May 1; to Sacramento, June 1.

North Bay line to Vallejo, August 1; to Petaluma, September 1; to San Rafael, September 1.

EMPIRE BUILDING TANKS

The Empire Oil & Refining Co. is making rapid progress on the construction of six new 80,000-bbl. storage tanks on the Cimarron tank farm, 20 miles west of Cushing, Okla. Tanks No. 1 and No. 2 are complete and tanks No. 3 and No. 5 are complete but have not been test caulked.

The fire wall for tank No. 1 is complete except for hand finishing. The fire walls are more than 50 per cent complete for the other five tanks. All pipe work is now complete except tying in of tanks No. 4 and No. 6.

Construction work on these tanks started about January 1 but was slowed down considerably by adverse weather conditions in January. Since that time progress has been rapid.

PRAIRIE LOOP

Prairie Pipe Line Co. is constructing 9 miles of 12-inch pipe line which will loop its main pipe line between Indian Station, near Cleveland, Pawnee County, Oklahoma, and its Wildhorse Junction station, in Osage County. The looping of the main at this point will increase its capacity and equalize the pressure of the oil as it passes through the main line at this point.

TO EXTEND GAS LINE

CHATHAM, Ontario, Mar. 31.—It is reported that Union Natural Gas Co. of Chatham is planning to extend its transmission line from Oil City to serve the villages of Inwood and Alvinston, in Lambton County. Gas may be delivered by September 1, 1930.

NEW MAINS IN CALGARY

CHATHAM, Ontario, Mar. 29.—Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary will this season lay some 30 miles of distributing mains in Calgary and other municipalities on its system, in addition to renovating its main transmission lines.

WORK ON NEW GAS LINE TO GLENDIVE TO START

CASPER, Wyo., Mar. 29.—The work on the new gas line that the Montana-Dakota Power Co. expects to lay from the Glendive Field in eastern Montana to Williston, N. Dak., is to be started at once. This line is to be 110 miles in length. It will carry natural gas from the Glendive Baker Field in eastern Montana to Williston, N. Dak. and serve the cities and towns along the route. It is to be one of the units in a great gas distribution system that is proposed to cover all of North Dakota eventually and may also serve gas to Minneapolis and St. Paul.

The new Glendive line is scheduled to cost $2,000,000 and the Hope Engineering Co. of Mount Vernon, Ohio, has the contract for the construction work. Four ditchers were unloaded and are nearly ready to start work, pipe is arriving at the distributing points and will go to the right of way this week. Gas is expected to be turned into the Williston mains by July 25.

This line will also serve with gas and fuel purposes, two new electric generating stations of the Montana-Dakota Power Co.'s system in North Dakota. The new 2,500 kilowatt station at Williston will have its fuel supply from this line and the smaller station at Fairview will also take its fuel supply from the new trunk line. The Holly Sugar Co.'s plant at Sidney, Richland County, Montana, has contracted to use natural gas from the line and will make the 1930 season with this fuel instead of coal as formerly.

The Montana-Dakota Power Co. also expects to unite several scattered electrical power lines with its present system and will then place a large power plant in the Glendive gas field to help furnish power over this system.

PURE VAN PIPE LINE

NEW YORK, Mar. 31.—The Pure Van Pipe Line Co., subsidiary of the Pure Oil Co., has contracted with the Copperweld Steel Co. of Glassport, Pa., for 375 miles of "Copperweld" telephone wire for installation in conjunction with its new pipe line in the Van, Texas, Field. The "Copperweld" type of wire combines steel and copper by the molten welding process, fusing the two metals into one. The manufacturers claim the extra tensile strength imparted by the steel core materially reduces installation expenses while the nonrusting copper exterior lessens maintenance costs. This type of wire has been adopted as standard in many sections of the country subject to heavy snow and sleet storms, the strength of the steel core enabling the wire to withstand great weight.

OKLAHOMA CITY GAS LINE

Cities Service Co. will complete by June 1 its 20-inch pipe line, with capacity of 100,000,000 feet of natural gas daily, connecting the company's Mid-Continent natural gas system with the Indian Territory Illuminating Oil Co.'s natural gas production in the Oklahoma City Field. Completion of this line will make available to the Cities Service gas system its gas resources in the Oklahoma City Field.

HANKAMER LINE BEGUN

Gulf Pipe Line Co. has started construction on an 8-inch pipe line from company's Hankamer Field in Liberty County to Sour Lake, a distance of 22 miles, where line will connect with company's trunk line to Port Arthur. Extension will have capacity of 10,000 bbls. of crude oil a day.

The second of a series of advertisements by the Oklahoma Contracting Company showing the history and the development of the pipe line industry

THEY FILLED THEIR BURDGUGI FROM OPEN DITCHES . . . IN OLD BAKU

At Baku, Russia, once the sacred city of the fire worshippers, is one of the world's oldest oil fields. From the crevices of the rocks at times the gas escapes and becomes ignited, causing this locality to be known as *the Field of Fire.*

Sometimes belonging to Russia, sometimes to Persia, long before development of kerosene or lamp oil, this field was consistently developed and exploited by the government for the crude oil, which was burned for lighting in open earthenware bowls. Drawn by man or horsepower, depending upon the depth and yield of the well, the oil was brought to the surface in buckets made of goat skin.

On the Monroe-St. Louis Line . . .

An epoch in pipe line history was the construction of the Mississippi River Fuel Corporation's 22-inch natural gas line from Northern Louisiana to St. Louis. The successful completion of this line gave St. Louis natural gas for its industries, and for the first time the Richland and Monroe gas fields became accessible to an industrial market.

The Oklahoma Contracting Company's portion of this line was sublet from Ford, Bacon & Davis, Inc. It extended from Ten Brook, Missouri, to Tuckerman, Arkansas, . . a distance of approximately 200 miles. Work began in April, 1929, and in spite of the unfavorable weather conditions during April and May, this contract was completed well within the specified time.

Ample modern pipe line equipment, adequate gangs of practical pipe-liners, directed by experienced executives, and a past record of achievement are the Oklahoma Contracting Company's assurance of a good line on time.

OKLAHOMA CONTRACTING COMPANY DALLAS TULSA

For transporting oil short distances, such as from the well to the open cisterns, the oil was flowed in shallow ditches. For long-distance hauling, however, the oil merchants filled their burdgugi (containers made of whole ox skins) from the ditches or the cisterns and the crude petroleum was carried across country on the backs of camels or upon high-wheeled arbens.

Modern pipe lines, installed under the direction of the Soviet government, have replaced the open ditches for transporting oil and gas in Old Baku. The patient chug-chug of booster stations can be heard through the *Field of Fire.*

OKLAHOMA FIELDS

(Continued from Page 50)

at 4,356-66 feet, and will be abandoned.

The extension well of Anderson & Kerr in the Konawa Pool was given a shot of 10 quarts from 2,770-85 feet. The well is located in the SE cor., Section 19-6-6. It was cleaning out and swabbed 29 bbls.

A semiwildcat north of the old Wewoka Pool, Hughes County, found gas while drilling. Independent Oil & Gas Co.'s No. 1 Johnson, C NE NE, Section 33-9-8, encountered gas at 3,436 feet, with force enough to blow 2,000 feet of water from the hole while drilling. The test was rigging up to resume operations to drill deeper.

New Wells in Palacine Area

In southern Oklahoma, two new wells were added to the Palacine area, in Stephens County, during the week, and southwest of Duncan, two other wells were completed. Magnolia Petroleum Co.'s No. 1 Jones-Christy, NW cor., Section 15-2s-6w, Stephens County, in the Palacine Pool, flowed 203 bbls. from sand at 2,846-66 feet, the first 19 hours. Atlantic Oil Producing Co.'s No. 1 Van Vleck, NE cor., Section 16-2s-6w, Stephens County, flowed 295 bbls. in 24 hours. Three new locations were also made in the area. Magnolia Petroleum Co.'s No. 2 Jones-Christy, SE cor. NW NW, Section 15-2s-6w, the south offset to the new well; W. H. Smith's No. 1 Randel, SE cor. NE NW, Section 15-2s-6w, and same operator's No. 2 Randel, NE cor. NW, Section 15-2s-6w, were new locations. Pierce & Brown and others' No. 1 Harley, NW cor., Section 30-2s-6w, a wildcat, 2 miles southwest of the Palacine Pool, was drilling in green shale at 4,505 feet. Gypsy Oil Co.'s No. 1 McPhail, NW cor., Section 1-2s-7w, a wildcat, 2½ miles northwest from the Palacine Pool, was drilling in sandy shale at 3,341 feet, with nothing showing.

In the Empire Field, southwest of Duncan, Magnolia Petroleum Co.'s No. 6 Worrell, SE cor. SW NW, Section 19-1s-8w, Stephens County, was completed for 4,000,000 feet of gas at 1,158-78 feet. Hydrick and others' No. 4 Poole, SW cor., Section 35-1s-8w, Stephens County, pumped 70 bbls. from the pay horizon at 1,920-24 feet.

The Beebe Pool, in Pontotoc County, had six new locations and two producers during the week. Benedum & Trees's No. 2 Coker, NW cor., Section 32-5-5, swabbed 212 bbls. of oil from the Viola lime at 2,484-2,503 feet, and 50 bbls. of water. Superior Oil Corp.'s No. 3 Boyd, in Section 32-5-5, swabbed 120 bbls. of oil from the Hunton lime at a total depth of 2,299 feet.

The initial shut-in production in the Oklahoma City Pool that has been allowed to produce for 24 hours or less as of March 29 was 387,651 bbls. The initial production of the wells and the approximate date each well will be opened follows:

Company, lease—	Well No.	Bbls.	Opening date
I. T. I. O.:			
Watters	*3	2,204	(?)
Trosper	*10	16,136	3-30-30
Farley-Fuzzell	1	28,800	4-23-30
Button	4	6,936	3-30-30
Fortson	3	19,229	4- 5-30
Drake	*1	4,631	4-18-30
L. Trosper	1	4,080	4-23-30
A. Brokaw	1	7,018	4-24-30
Hiddleston	1	1,525	14-24-30
Jones	*1	6,241	4-24-30
Trosper	5	167	4-30-30
L. Canfield	2	1,374	25- 2-30
N. Emerson	*3	3,545	35- 2-30
S. Bodine	3	801	45- 3-30
Thomas Fuzzell	3	3,524	55- 3-30
A. Bodine	6	3,612	5- 4-30
Canfield-Button	2	2,686	5- 4-30
Barker-Drake	*1	2,589	65- 4-30
Unsell-Krager	*1	3,007	5- 9-30
Theimer	*1	5,558	45-10-30
C. Brokaw	2	563	75-10-30
Jones	*1	4,944	35-12-30
Butterfield	*1	3,264	35-17-30
Pasadena Heights	*1	5,982	35-16-30
Jones Community	*1	4,944	35-12-30
Jones	*4	1,954	35-18-30
Fortson-Farley	3	15,272	35-20-30
N. Emerson	*3	2,204	35-19-30
E. Fortson	2	3,364	35-19-30
L. Farley	1	19,833	35-21-30
A. Bodine	7	609	35-23-30
Prairie:			
Hiddleston	6	14,000	4-21-30
Hiddleston	7	5,685	4-22-30
W. Franklin:			
Lowery	*4	8,376	4-23-30
Lowery	*6	6,339	35-19-30
Lowery	*7	11,335	35-11-30
Theimer	*1	7,896	35-17-30
Eacock	*1	6,838	36- 1-30
Cromwell:			
Trosper Park	*4	2,975	35-10-30
Trosper Park	*10	9,015	35-21-30
Sinclair:			
Vinel	*2	3,310	85-14-30
Vincl	*1	14,665	5-17-30
Kinter	*3	505	35-12-30
Kinter	*4	5,000	5-19-30
School Land	*2	5,235	35-21-30
Kinter	*5	255	5-28-30
Kinter	*7	630	95-29-30
Coline:			
Olds	*5	3,467	105-16-30
Warren	4	11,622	35-13-30
Warren	7	15,000	6- 1-30
Clauer	*2	5,130	5-23-30
Slick:			
Hoopes	*1	1,064	35-17-30
Hoopes	*2	6,758	35-20-30
Shell:			
Petty	*2	260	115-13-30
I. T. I. O.:			
Wilke-Anderson	*1	381	6- 1-30
Sudik	*1	50,000	(?)
Craven & Cunningham	*1	6,904	125-30-30
Total	57	387,651	

*Wells producing from the Simpson sand. All others are producing from the Arbuckle lime. [1]Fifteen hours. [2]Three and one-half hours. [3]Twelve hours. [4]Five hours. [5]Two and three-fourths hours. [6]Nineteen and one-half hours. [7]One hour. [8]Twenty hours. [9]Twenty-one hours. [10]Nineteen hours. [11]Twenty-two hours. [12]Eight and one-half hours. These notations indicate the number of hours the wells produced on their initial day.

Actual Production

The actual production from the Oklahoma City Pool for the seven days ending March 31 was as follows:

Day—	Bbls.	Wells
March 25	51,794	28
March 26	76,800	29
March 27	81,695	37
March 28	68,365	29
March 29	102,062	32
March 30	80,831	36
March 31	51,832	28

Crude Oil Shipments

Pipe line and tank car shipments averaged 76,683 bbls. a day from the Oklahoma City Pool for the week ending March 26. The shipments for the week by companies were as follows:

Company—	Bbls.
Empire	113,805
I. T. I. O.	85,699
Magnolia	69,535
Oklahoma	95,316
Prairie	106,080
Shell	14,053
Sinclair	29,190
Tidal	23,091
Total	536,769

Greater Seminole Production

Oil production from the important pools in the Greater Seminole area shows another decline for the week ending March 26. The decline for the area was about 3,000 bbls. a day. The Seminole pools averaged 219,115 bbls. from 1,834 wells. The daily average gauges for the different pools for the same seven days were as follows:

Pool—	Wells	Bbls.
Little River	367	42,019
East Little River	65	16,734
Carr City	58	9,353
Maud	137	6,991
Mission	107	12,561
Bowlegs	284	19,811
Earlsboro	291	35,103
East Earlsboro	138	41,252
Seminole	267	19,965
East Seminole	33	3,724
Searight	87	11,602
Allen	258	20,167
Asher	26	2,256
Konawa	25	8,754
St. Louis	481	39,285
Sasakwa	87	11,602
Total	2,676	301,074

Oil Shipments

The daily pipe line and tank car shipments for the seven days ending March 26, were 212,113 bbls. from the Seminole area, which is a decline of about 20,000 bbls. from the previous week. The shipments by companies for the same seven days were as follows:

Company—	Bbls.
Barnsdall	2,373
Champlin	4,032
Continental	1,111
Consolidated	613
Cosden	5,677
Empire	5,084
Gypsy	24,108
Magnolia	11,025
Oklahoma	28,140
Prairie	25,719
Producers & Refiners	2,629
Pure	5,637
Deep Rock	4,196
Shell	14,759
Sinclair	43,262
Texas	14,206
Tidal	11,909
White Oak	1,890
Total	206,370
Tank cars	6,667
Grand total	213,037

Beckham County

Martin & Kay's No. 1 Martin, CEL NW, Section 32-8-24w, drilled to 3,335 feet, plugged back and shot sand 1,970-90 feet and was abandoned.

Caddo County

English Drilling Co. made location for No. 7 Abernathy, SW cor. NE SE, Section 31-6-9w. Magnolia Petroleum Co.'s No. 3 Niles, SE cor. NE NW, Section 36-6-10w, has been abandoned at 4,215 feet. Noble & Olson's No. 3 Ed Rowe, NW cor. SE NE, Section 36-6-10w, is pumping 175 bbls. from sand 3,437-30 feet.

Carter County

Trevelyn Oil Co. has the rig up for No. 2 Spigner, NE cor. SW NW, Section 24-1s-3w. J. H. Hudson and others made location for No. 1 Fulton, NW cor. SE SW, Section 28-4s-2w. Carter Oil Co.'s No. 1 Tom Cobb, SW cor. NE SE, Section 30-1s-3w, has been abandoned at 4,018 feet. No. 1 Kola Awana, NE cor. NW, Section 30-1s-3w, has been abandoned at 3,338 feet.

Comanche County

Joe Wright's No. 1 Indian, SE cor. SW, Section 29-2-9w, is drilling at 750 feet.

Cotton County

Thomas Medlin's No. 1 N. Johns, SW cor. SE, Section 8-2s-9w, has been abandoned at 2,527 feet.

Creek County

J. B. Grieves' rig is up for No. 1 Dickerson, SE cor. NE NW, Section 4-19-8. J. W. Merritt and others' No. 3 Brown, SE cor. NW NE, Section 27-18-8, is rigging up. H. L. Skelly and C. O. Buckles' No. 1 Grayson, SE cor., Section 22-17-9, is drilling at 240 feet. Westland Oil Co. made location for No. 3 Walker, NW cor. SW NW, Section 22-17-9. Shaffer Oil & Refining Co. and others' No. 1 McKinney, NW cor., Section 33-16-8, is a rig. Transcontinental Oil Co.'s No. 1 Humphrey, SW cor. NE, Section 15-16-9, is rigging up. Skelly Oil Co. has the rig up for No. 2 Beaver, NE cor. SE SE, Section 9-15-8. Campbell-Cothran Corp. and Shaffer Oil & Refining Co. staked location for No. 1 Kimble-Reading, SW cor. NW NE, Section 15-14-10. Foster Petroleum Co. and others' No. 1 Hinton, NE cor. SE SE, Section 26-19-8, has been abandoned at 3,100 feet. Holmes & Burton's No. 1 Brightman, NW cor. NE NE, Section 30-19-10, made 150 bbls. in Red Fork sand 2,175-2,213 feet. O. M. Irelan and others' No. 2 Smith, CNL SW SE, Section 11-17-10, has been completed for 12 bbls. in sand 1,940-95 feet, after plugging back from 2,496 feet. F. B. Murta and others' No. 1-A Page, SW cor. SE SW NW, Section 34-16-10, is dry and abandoned at 2,230 feet.

Garfield County

Continental Oil Co.'s No. 1 Looman, NE cor. SE, Section 9-20-4w, has been abandoned at 5,738 feet. No. 1 Miller, SW cor., Section 12-20-4w, is dry and abandoned at 4,586 feet.

Hughes County

Burke-Greis Oil Co. made location for No. 1 Oliphant "B," NW cor. SW NE, Section 18-9-9.

Jefferson County

Simpson & Fell's No. 1 W. Seay, SW cor. NW NE NE, Section 3-7s-5w, is rigging up. O. V. Beck's No. 7 Seay, NE cor. SE SW, Section 34-6s-5w, is pumping 290 bbls. from sand 1,507-24 feet.

Kay County

Alco Royalty Co. made location for No. 1 Wolf, SE cor. SW SE, Section 34-26-2w.

McIntosh County

Jennings Brothers' No. 1 Self, SE cor. NW SW, Section 31-10-14, is dry and abandoned at 4,625 feet.

Logan County

Sam Hall has the rig up for No. 1 Norris, SW cor., Section 22-18-4w, Lovell Field. The Prairie Oil & Gas Co. and T. B. Slick made location for No. 1 Morgan, C NW NE, Section 33-16-1w. The Prairie Oil & Gas Co.'s No. 1 Kendrick, SW cor. NW SE, Section 21-18-4w, Lovell Field, made 215 bbls. from sand 4,988-93 feet.

Lincoln County

Blackwell Oil & Gas Co. made location for No. 1 Estes, SW cor. SE, Section 30-17-4. Magnolia Petroleum Co. made location for No. 1 S. Henry, SW cor. NE NE, Section 17-14-4, Chandler Pool. The Prairie Oil & Gas Co. and T. B. Slick made location for No. 1 Wolfe, NW cor., Section 16-14-4.

Marshall County

F. W. Merrick has a machine on the location for No. 15 R. H. Null, SE cor. NE NW NW, Section 24-5s-5, Madill Field. Poor Boy Oil Co. has a machine on the ground for No. 1 R. H. Null, NW cor. SW SW NE, Section 24-5s-5. Oklahoma Bay Transit Co. moved a machine in for No. 1 Arbuckle, NE cor. SE SE SE, Section 25-5s-5. Flemming-Kimbrell's No. 3 R. H. Null, SE cor. SW NE NW, Section 24-5s-5, made 65 bbls. in sands 567-80 feet and 604-27 feet. F. W. Merrick's No. 13 Null, NW cor. SE NW, Section 24-5s-5, is producing 60 bbls. in sand 571-79 feet, total depth 594 feet. Golden Rule Oil Co.'s No. 1 Reeves & Gray, NW cor. SE NE, Section 19-6s-6, has been abandoned at 765 feet.

Muskogee County

Hale & Reynolds' No. 1 M. Sango, SE cor. NW SW NW, Section 9-15-18, is rigging up. J. L. Haney's No. 4 Stidham, NE cor. NW SW SW, Section 9-15-18, is a machine. Kimsey & Simpson moved a machine in for No. 1 Mackey, SW cor. SE SE SW, Section 9-15-18. C. O. Buckles' No. 2 Lowery, NW cor. SW, Section 9-15-15, made a 10-bbl. well in sand 1,670-75 feet. W. H. Hooker's No. 1 Muskogee Townsite, Block 21, SW cor., Section 27-15-18, is dry and abandoned at 1,101 feet. C. D. Bradley's No. 1 Robinson, NE cor. SW SE, Section 20-15-19, is a dry hole at 1,195 feet.

Noble County

Weaver & Cragin made location for No. 1 Fredrick, C SW NE, Section 4-24-1w.

Oklahoma County

Tom Slick Oil Co. and others' No. 1 Townsend, SE cor. NW, Section 1-11-3w, Oklahoma City Field, is a rig under construction. Indian Territory Illuminating Oil Co. has the cellar dug for No. 4 Theimer, SW cor. NW SE, Section 1-11-3w. Tom Slick Oil Co. and others staked location for No. 1 Foote, SE cor. SW, Section 2-11-3w. Marco Oil Corp. made location for No. 1 Holder, SE cor. SW, Section 2-11-3w. Wright & Smith's No. 1 Black, NW cor. NE, Section 2-11-3w, is a cellar. Cromwell-Franklin Oil Co. made location for No. 24 Trosper Park, NW cor. SW NW, Section 13-11-3w. Julian Oil Royalty Co.'s No. 1 Johnson, NE cor. NW, Section 14-11-3w, is a cellar. Indian Territory Illuminating Oil Co. has dug the cellar for No. 2 Peterson, SE cor. SW, Section 25-11-3w. Coline Oil Co. made location for No. 7 Clauer, NW cor. SE SE, Section 25-11-3w. Sinclair Oil & Gas Co. has made the location for No. 8 Vencl, SE cor. NE SE, Section 31-11-2w. Sinclair Oil & Gas Co. has the cellar dug for No. 6 School Land No. 54, SE cor. NW NE, Section 36-11-3w. No. 7 School Land No. 54, NE cor. SE NE, Section 36-11-3w, is also a cellar. The cellar for No. 8 School Land No. 54 has been dug, NW cor. NE, Section 36-11-3w. Indian Territory Illuminating Oil Co. made location for No. 1 School Land, NE cor. NW, Section 36-11-3w. The cellar has been dug for No. 12 Jones, NW cor. SW NW, Section 31-11-2w.

Cromwell-Franklin Oil Co.'s No. 10 Trosper Park, NW cor. SE, Section 12-11-3w, has been completed for estimated 18,186 bbls. in sand 6,245-6,304 feet. Indian Territory Illuminating Oil Co. and others' No. 7 A. Bodine, SE cor. NW SE, Section 24-11-3w, made estimated 1,378 bbls. in Arbuckle lime 6,126-6,472 feet. Coline Oil Co.'s No. 2 Clauer, NW cor. SE, Section 25-11-3w, has been completed for 5,130 bbls. in sand 6,393-6,437 feet. Sinclair Oil & Gas Co.'s No. 3 School Land No. 54, NW cor. NE NE, Section 36-11-3w, had sand 6,392-6,561 feet and was completed for estimated 10,470 bbls. Indian Territory Illuminating Oil Co. and others' No. 3 Emmerson, SW

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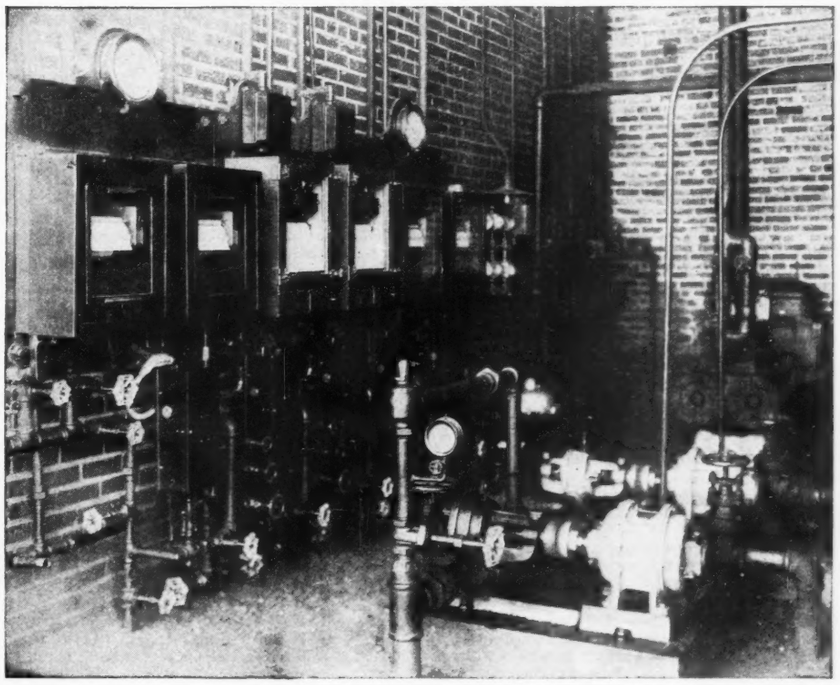
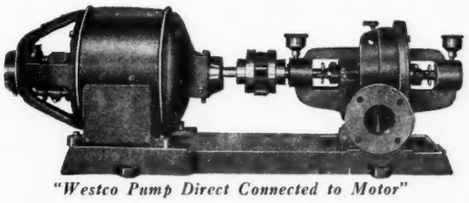
Pump in foreground, a Model 7HB Westco connection to 5 H.P. 1800 r.p.m. motor pumping gas oil through dry trim coils in bubble towers at 70 lbs. pressure. The liquid is cold and quantity is controlled by means of Brown instruments for temperature control. The surplus liquid is by-passed through the relief valve and returned to the suction.

Pump directly behind the trim pump is a 6F5 Westco connected to a 2 H.P. motor. This unit pumps cold crude oil to stills.



WESTCO TURBINE PUMPS



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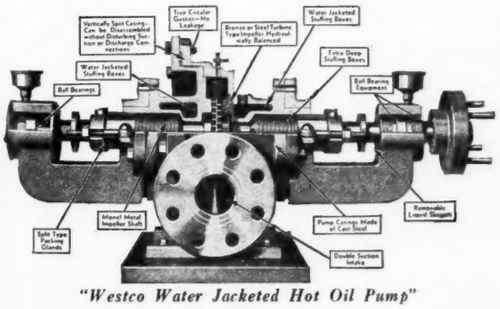
Vertically Split Casing, Can be Disassembled without Disturbing Suction or Discharge Connections
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cor., Section 30-11-2w, has been completed in sand 6,500-23 feet for estimated 4,408 bbls. Tom Slick Oil Co. and others' No. 2 Hoopes, SW cor. NE, Section 31-11-2w, made 13,000 bbls. in sand 6,385-6,606 feet.

Osage County

The Prairie Oil & Gas Co. made location for No. 7, NW cor. SE SW, Section 30-25-8. Location was also made for No. 4, SW cor. NW NE, Section 31-25-8. Indian Territory Illuminating Oil Co. made location for No. 427, CEL SE NE, Section 6-25-11. Duffield & Howard and others' No. 1, NE cor. NW, Section 29-29-6, is dry and abandoned at 2,886 feet. Peters Petroleum Corp.'s No. 10, SE cor. NE SE, Section 22-27-11, made 40 bbls. in Bartlesville sand 1,694-1,718 feet. A. G. Oliphant ad others' No. 1, SW cor. NW SW, Section 11-21-8, has been completed for 389 bbls. in Red Fork sand 2,292-2,327 feet. Zika & Neely's No. 2, NE cor. NW SW, Section 12-21-11, made 35 bbls. in Tucker sand 1,712-32 feet.

Okfuskee County

E. L. Robinson and others' rig is up for No. 5 Severs "B," C NW SE, Section 35-11-9. W. C. Newman Oil Corp.'s No. 1 Sarcy, SE cor. SW, Section 19-12-12, made a 25-bbl. well in sand 1,610-68 feet. Fern Oil & Gas Co.'s No. 2 Turner, C SE SE, Section 24-11-10, is dry and abandoned at 3,749 feet. Summitt Drilling Co.'s No. 1-A Pigeon, SE cor. NW SW, Section 23-11-11, is dry and abandoned at 2,500 feet. Moffett and others' No. 1-A Wilson, NE cor. SW NE, Section 26-11-11, has been completed for 10 bbls. in sand 2,010-23 feet. Atlantic Oil Producing Co.'s No. 1 Jackson, NW cor. SW, Section 35-11-11, has been completed for 8,500,000 feet of gas in sand 3,006-33 feet. T. P. McAdams and others' No. 1 Carson, NW cor. SE, Section 1-10-11, is dry and abandoned at 1,800 feet. Producers & Refiners Corp.'s No. 6 Monarye, NE cor. SE SE, Section 29-12-10, is making 40 bbls. from sand 3,113-36 feet.

Okmulgee County

J. E. Wallace's No. 13 V. Colbert, CEL NW NE, Section 14-14-14, is spudding. Miller and others' No. 1-A Powell, NE cor., Section 31-16-12, has been abandoned at 2,705 feet. Prince and others' No. 4 M. Smith, NW cor. SE, Section 21-12-14, has been completed for 330,000 feet of gas in sand 635-712 feet.

Pawnee County

Mannford Development Co.'s No. 2 Fleming, SE cor., Section 15-20-9, an old well, is rigging up to deepen from 1,932 feet. John Byrnes' No. 5 Edmiston, NW cor. NE SW SW, Section 30-21-9, is drilling at 250 feet.

Pontotoc County

Benedum-Trees Oil Co.'s No. 3 Browal, SW cor. NE NW, Section 31-5-5, Bebee Pool, is a rig. The rig is also up for No. 2 Stafford, SE cor. SW NW, Section 31-5-5. Location has been made for No. 1 Wendle, NE cor. NW SE, Section 31-5-5. Dixie Oil Co. moved rig material in for No. 3 Haynes, NW cor. NE SW, Section 32-5-5. Superior Oil Co. has built the rig for No. 6 Mouldin, SE cor. SW NW, Section 32-5-5. Material is on the ground for No. 7 Mouldin, NE cor. SW NW, Section 32-5-5. Benedum-Trees Oil Co.'s No. 1 Homedy, SE cor. SW SW, Section 27-5-5, has been abandoned at 3,010 feet. The Prairie Oil & Gas Co.'s No. 1 Snow, NE cor. NW SW, Section 28-5-8, Allen Pool, has been completed for 20 bbls. in sand 887-95 feet.

Pottawatomie County

Commerce Development Co.'s No. 1 Earlsboro Townsite, Block 4, Lot 6, NW cor. SE NW, Section 8-9-5, made 325 bbls. in Wilcox sand 4,368-4,400 feet. Sinclair Oil & Gas Co. and others' No. 1 Shimer, NW cor., Section 17-9-5, is dry and abandoned at 4,383 feet. Magnolia Petroleum Co.'s No. 1 Peck, SW cor. NW, Section 6-8-5, Maud Pool, made a 30-bbl. well in Hunton lime 3,985-4,030 feet after plugging back from 4,356 feet. Independent Oil & Gas Co. and Mid-Kansas Oil Co.'s No. 1 Asher, NE cor., Section 3-7-4, St. Louis area, is dry and abandoned at 4,294 feet in Wilcox sand. Atlantic Oil Producing Co.'s No. 1 McGee, NW cor. SE, Section 4-7-4, flowed 250 bbls. from Hunton lime 3,776 feet, total depth 4,049 feet. Sinclair Oil & Gas Co.'s No. 1 Morgan, NE cor. SW, Section 4-7-4, flowed 375 bbls. from Hunton lime 3,718-3,863 feet. No. 2 Morgan, NW cor. NE SW, Section 4-7-4, drilled to 4,239 feet in Viola lime, plugged back to 4,218 feet and made a 35-bbl. pumper.

Seminole County

Champlin Oil & Refining Co. and Shell Petroleum Corp. made location for No. 6 Sachemeche, SE cor. SW SW, Section 9-6-6, Konawa Pool. McCulloch Oil Co. and others staked location for No. 2 Roberts, NE cor. NW NW, Section 16-6-6. Harris and others' No. 1 Chupco, NE cor. SE, Section 20-6-6, is a rig under construction. Twin State Oil Co. is erecting the rig for No. 2 Charlie "A," SW cor. NE NE, Section 20-6-6. Gypsy Oil Co.'s No. 7 K. Payne, SW cor. SE NE, Section 5-7-7, East Little River Pool, is a cellar. Mid-Continent Petroleum Corp. made location for No. 17 Smith, SE cor. SW NE, Section 5-7-7. No. 18 Smith, SW cor. NE, Section 5-7-7, is also a location. Sinclair Oil & Gas Co. made location for No. 11 Phillips, NW cor. NE SE, Section 5-7-7. The Prairie Oil & Gas Co. is building the rig for No. 7 Smith, NE cor. SW, Section 5-7-7.

Gypsy Oil Co.'s No. 1 Taylor, SE cor. NE SW, Section 19-9-6, has been completed for 1,385 bbls. in Wilcox sand 4,127-59 feet. No. 2 Taylor, NE cor. SE SW, Section 19-9-6, East Earlsboro Pool, made 2,202 bbls. in Wilcox sand 4,129-54 feet. Amerada Petroleum Corp. and Dixie Oil Co.'s No. 4 Fullerton, SE cor. NE SE, Section 19-9-6, flowed 845 bbls. from Wilcox sand 4,180-91 feet. Carter Oil Co.'s No. 8 Jackson, SW cor. NW NE, Section 11-7-6, Little River Pool, is dry and abandoned at 3,175 feet. Mid-Continent Petroleum Corp.'s No. 3 Aleck, NW cor. NE SE, Section 23-7-6, is pumping 30 bbls. from 3,192 feet. Gypsy Oil Co.'s No. 5 Walker, NE cor. SW SE, Section 5-7-7, East Little River Pool, flowed 1,430 bbls. from Cromwell sand 3,132-61 feet. No. 6 Walker, NW cor. SW SE, Section 5-7-7, made 1,440 bbls. from Cromwell sand 3,155-79 feet. Sinclair Oil & Gas Co.'s No. 7 Phillips, SE cor., Section 5-7-7, has been completed for 675 bbls. in sand 3,255-85 feet. No. 10 Phillips, NW cor. SE SE, Section 5-7-7, made 360 bbls. from Cromwell sand 3,215-60 feet. Champlin Oil & Refining Co. and Shell Petroleum Corp.'s No. 4 Sachemeche, NW cor. SE SW, Section 9-6-6, Konawa Pool, has been plugged back from 3,050 feet to 3,039 feet and swabbed 91 bbls. No. 5 Sachemeche, SW cor. SE SW, Section 9-6-6, made 300 bbls. in sand 2,900-33 feet. Harris and others' No. 1 Roberts, NW cor. NE NW, Section 16-6-6, flowed 372 bbls. from sand 2,890-2,912 feet. W. B. Pine's No. 1 Cheparney, SE cor. NE SW, Section 12-5-7, has been completed for 12,000,000 feet of gas in sand 2,625-85 feet. The Prairie Oil & Gas Co.'s No. 2 Diament, SE cor., Section 12-6-7, Sasakwa Pool, has been completed for 1,515 bbls. in sand 4,113-19 feet. No. 6 Smith, NE cor. SE SW, Section 5-7-7, made 400 bbls. in Cromwell sand 3,185-3,205 feet. Producers & Refiners Corp.'s No. 1 Factor, NW cor. SW, Section 30-6-6, Konawa area, has been abandoned at 3,335 feet. The Prairie Oil & Gas Co. and T. B. Slick's No. 3 Tiger, NW cor. NE, Section 8-7-7, has been completed for 78,297,000 feet of gas.

Texas County

Argus Production Co. made location for No. 1 Rolston, C SW, Section 23-6-14.

Tulsa County

Cornett and others' No. 1-B Crosby, NE cor., Section 18-17-13, is drilling at 1,100 feet.

Stephens County

Sykes & Fossett's No. 1 Blake, NW cor. NE SW, Section 16-1s-8w, is rigging up to deepen from 2,116 feet. Pace and others' No. 3 Watkins, SW cor. NW SE, Section 21-2s-7w, is rigging up. W. H. Smith made location for No. 1 Randle, SE cor. NE NW, Section 15-2s-6w. Location was made for No. 2 Randle, NE cor. NW, Section 15-2s-6w. Magnolia Petroleum Co.'s No. 6 Worrell, SE cor. SW NW, Section 19-1s-8w, has been completed for 4,000,000 feet of gas in broken sand 1,158-78 feet. American Pipe Line Co.'s No. 10 Nigh, NE cor. SE NW, Section 34-1s-8w, has been abandoned at 2,474 feet. Heydrick and others' No. 4 Poole, NE cor. SW SW SW, Section 35-1s-8w, made 70 bbls. in sand 1,920-24 feet. Smythe & Nash's No. 1 Johnson, NE cor., Section 30-2-8w, is pumping 15 bbls. from sand 2,480-83 feet. Atlantic Oil Producing Co.'s No. 1 Brittian, NE cor., Section 16-2s-6, made 400 bbls. from sand 2,861-85 feet.

Wagoner County

H. A. Davis' No. 4 J. Roberts, NE cor. SE SE, Section 8-18-15, has drilled to 1,241 feet and will shoot. Hunter and others' No. 2 Sier, C SW NE, Section 10-18-15, is drilling at 1,156 feet. Tulsa Drilling Co.'s No. 1 C. Walker, SW cor. NW NE NW, Section 23-18-17, has been completed for 431,000 feet of gas in sand 745-50 feet after plugging back from 920 feet. Charles Harris' No. 3 M. Tucker, C NW SW, Section 30-18-18, is dry and abandoned at 760 feet.

—Photo by The Howards.

The Indian Territory Illuminating Oil Co.'s No. 1 M. Sudik, in the Oklahoma City Pool, which came in unexpectedly and ran wild for several days. It was estimated to be flowing over 2,000 bbls. an hour and 200,000,000 feet of gas. The spray covered the country for several miles. It was shut in Sunday night.

WEST TEXAS FIELDS

(Continued from Page 65)

feet and an initial production of 200 bbls. fluid daily, 8 per cent water, 16 per cent b.s.

Crockett County

Empire Gas & Fuel Co.'s No. 1 Shannon, located 330 feet north and east of Section 42, T.C.R.R. Survey, was drilled to a total depth of 2,660 feet, was plugged back to 2,640 feet, topped the pay at 2,615 feet, was shot with 50 quarts at 2,615-30 feet and had an initial production of 20 bbls. oil, 35 per cent water.

PIPE LINE RUNS
March 12 to March 19

	Last period
Runs through trunk lines—	
Atlantic P. L. Co., Port Arthur	27,000
Gulf P. L. Co., to coast via Ranger	35,129
Humble P. L. Co., Comyn, Tex.	33,035
Humble P. L. Co., Ingleside	48,366
Illinois P. L. Co., Del Rio, Tex.	19,094
Magnolia P. L. Co., DeLeon, Tex.	19,947
Pasotex P. L. Co., El Paso, Tex.	13,621
Shell P. L. Co., to Healdton, Okla.	35,192
Shell P. L. Co., to Houston, Tex.	19,980
The Texas Co., Houston, Tex.	20,954
Total	301,658
Tank car shipment—	
Humble O. & R. Co., McCamey	24
Landreth Prod. Corp., Crossett	112
Reagan County Pur. Co., McCamey	...
Thomas & Brann, Grant City	360
Orient Co., McCamey	100
Southern Crude O. P. Co., Wickett	24,279
Total	24,885
Runs to West Texas refineries—	
Amarillo Ref. Co., Pyote	372
Bluebonnett Ref. Co., Wickett	2,503
Burford Ref. Co., Pecos	4,539
Col-Tex Ref. Co., Colorado	7,000
Cosden Ref. Co., Big Spring	7,339
Great West. Ref. Co., Big Spring	3,256
Humble O. & R. Co., McCamey	3,227
Mid-Tex Ref. Co., Midland	...
Tonkawa Ref. Co., Pyote	2,442
Big Spring Ref. Co., Big Spring	928
Richardson Ref. Co., Big Spring	4,494
Wickett Ref. Co., Pyote, Tex.	150
Total	36,250

Summmary

	Last period	This period
Pipe line runs through trunk lines	280,732	301,658
Tank car shipments	24,766	24,885
Runs to West Texas refineries	30,610	36,250
Total daily distribution	336,108	362,793
Total daily production	341,816	337,790
Dail average from storage	5,708	25,003

Ector County

Landreth Production Corp.'s No. 2-T University, located 990 feet from north and 330 feet from east of Section 3, Block 35, was drilled to a total depth of 3,688 feet, topped the pay at 3,588 feet, increased from 3,635-55 feet and had an initial production of 565 bbls. oil flowing through 6-inch casing.

Howard County

Continental Oil Co.'s No. 7-C Chalk was recompleted at 1,819-39 feet and swabbed 69 bbls. in 24 hours. McGinley & Sigler's No. 1 Hyman-B, located 330 feet south and west of NE cor. SW, Section 89, Block 29, W.&N.W.R.R Survey, was drilled to a total depth of 1,606 feet, made 25,000 feet of gas at 1,241-42 feet and increased to 50,000 feet at 1,250 feet, encountered a hole full of water at 1,465-70 feet and was dry and abandoned.

Pecos County

Amerada Petroleum Corp.'s No. 1 University-B, located 1,650 feet from west, 990 feet from south of Section 32, Block 16, was drilled to a total depth of 1,550 feet, topped the pay at 1,545 feet and had an initial production of 180 bbls. daily, 65 per cent water. Dixie Oil Co.'s No. 3 Torborg, located 735 feet north and 150 feet east from CSL Section 539, Block A-3, A.&B. Survey, was drilled to a total depth of 440 feet, was plugged

(Continued on Page 107)

A PLEDGE OF GREATER SATISFACTION
W. M. Lockard
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F. H. Lomas
A. P. Tarr
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Lima Field Shows More Development

Central and Southern Ohio Districts to Be Given New Play. Indiana and Western Illinois Area Report Leasing Activity

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio., Mar. 31.—Development work is already making a better showing in the old Lima Field than for a long period. In the Mount Blanchard area of Delaware Township, Hancock County, large blocks have been taken under lease recently, to a large extent for gas, but oil was found just at the edge of Mount Blanchard more than 35 years ago, although not in quantities to attract operators at that time. Both oil and gas lines pass through that part of the county and when production is found there will be a ready market for both products. The Ohio Fuel Gas Co. has secured quite an acreage in the Delaware Township area and will no doubt give it a good test. R. E. Hommel of Findlay, and H. C. Mick, of Forest, have acquired some nearby acreage to the well recently drilled by the Kemrow Co. on the Sidney Sites farm, Section 14, Cessna Township, Hardin County, which is a portion of the belt where the gas is found from Patterson and Forest down to the southwest as far as Roundhead, in Hardin County. The Sites well was attractive as it produced an initial of 40 bbls. of crude and has a volume of 250,000 feet of gas. It is approximately 5 miles west of Kenton, and on the south side of the one-time famous Trenton Rock area which is the largest continuous producing area in the country.

Central and southern Ohio as well as the southwestern portion of the state are attracting the attention of the oil and gas people and if reports are true the foothills of the Ohio River on the Ohio side, will be given a great number of tests during the current year. Leasing activities have also prevailed in several areas of Indiana as well as in western Illinois, along the Mississippi River, where the Trenton lime formation is found at a very shallow depth, similar to the territory known as the Dupo Field in Sugar Loaf Township, St. Clair County, and the Waterloo Field in Monroe County which lies to the south of the Dupo Field.

Lima Field

The Lima Field makes a better showing than any period during the past year or more and if this rate is maintained it may come back to greater activity. Several fair sized producers were found since the last review and some dry holes were also found.

In the Tiffin district, Seneca Township, Seneca County, Keith & Salladay drilled a test on the J. A. Bookmyer farm, Section 33, which was reported making a fine showing, but when tested is reported to have made but a barrel. W. C. Parmalee is drilling on the David Zeis farm, Section 27, same township, and Cameron & Son of Urichsville, are drilling on the Jacob Fruth farm, 5 miles northeast of Carey, in the same township. In Liberty Township, C. L. Williams found a dry hole on the George Frederick farm, Section 26, and the Marvela Oil & Gas Co.'s No. 4 Milo Saul farm, NE, Section 36, same township, 1,000 feet from the south line and 200 feet from the east line of the lease, was also a duster. Top of Trenton in this well at 1,413 feet and drilled 102 feet, total depth 1,515 feet. This was formerly reported as W. J. Poyser and others. Fossum and others are drilling No. 1 Otto and Charles Ewald farm, same section, and C. L. Messer and others are working on the Ida M. Rosenberger, same section and township. In Pleasants Township, Hulse and others' second test on the Albert Abbott farm, Section 29, is a duster. Irvin Waltermier is drilling No. 8 J. T. Waltermier farm, Section 21, Jackson Township, same county, and the Kansas Oil & Gas Co. is drilling No. 3 Clarence P. Dillon, Section 1, same township. J. H. Murphy & Sons are drilling on the S. Wolf farm, Section 1, Hopewell Township, and C. L. Williams is drilling a wildcat on the P. Stuckey, Section 32, Bloom Township, also in Seneca County.

Hancock County

In Hancock County, Biglick Township, the Ridge Gas & Oil Syndicate's No. 4 Enos Gross, Section 35, pumped 45 bbls. the first 24 hours. Robert Mitchell, trustee, is drilling a second test on the R. W. Moore, Section 21, same township. In Eagle Township, Star & Clark's No. 18, 1,006 feet from the north line and 200 from the west line of the Allice Stauffer, NW, Section 6, pumped initially 25 bbls. In Liberty Township, L. Cramer's No. 6 in the northeast corner of the John Shank, on the oil map as the M. Bish, SW, Section 32, pumped 20 bbls. initial from the total depth of 1,380 feet, or 62 feet in the Trenton lime. Mathias Brothers are drilling No. 14 Isaac Hart, Section 27, Portage Township.

In Wood County, Plain Township, Murray B. Chidester abandoned Nos. 2, 10, 12, 15, 20, 21 and 22 W. A. Iches, Section 26. In Liberty Township, the Northern Oil Co. abandoned Nos. 15, 16, 28, 30 and 33 John Avery farm, Section 1. In Bloom Township, Clark A. Browning is drilling No. 36 Frank McClure farm, Section 19.

In Auglaize County, Noble Township, Frank Wahrer's No. 7 in the northeast corner of the Frank Wahrer farm, SE, Section 11, pumped 10 bbls. Top of Trenton was 1,127 feet and 60 feet in the sand, to a total depth of 1,187 feet.

In Sandusky County, Rice Township, W. C. Richards and others' test in the southwest corner of the Isaac Drace, on the oil map as the Hartz farm, NW, Section 30, pumped 10 bbls. initial. Top of sand at 1,323 feet, in sand 61 feet, total depth 1,384 feet. In North Washington Township, the Security Oil Co.'s test, 600 feet from the south line and 1,300 feet from the east line of the W. O. Miller farm, SE, Section 26, pumped 4 bbls. from a total depth of 1,341 feet, or 51 feet in the Trenton. Same company is starting a test on the O. Sorg farm, Section 27, same township. In Ballville Township, J. H. Murphy & Sons drilled a dry hole on the P. H. Fry, Section 31, and McPherson and others are starting a test on the E. Whitman, same section. In Madison Township, E. S. Johnson abandoned Nos. 1 and 2 C. Beeker farm, Section 12. In Washington Township, the Gibsonburg Oil Co. is drilling on the Emery Hetrick, Section 2.

In the Waterville Field, Monclova Township, Lucas County, John Doblinger's second test, 480 feet from the north line and 300 feet from the west line of the William G. Black, NW, Section 17, pumped 10 bbls. initial. Top of Trenton 1,204 feet, in sand 62 feet, total depth 1,266 feet.

In Ottawa County, Allen Township, J. F. Arnold abandoned Nos. 2 and 4 J. P. Shessler farm, Section 16.

CENTRAL OHIO

The Central Ohio Field for the week showed 24 completions, of which 8 were oil wells, with an initial production of 395 bbls., 3 dry holes and 13 gas wells, and in new work starting, 8 rigs and 16 wells spudding, a total of 24.

In Ashland County, Greene Township, the Ohio Fuel Gas Co. has an average gas well in No. 2-5,015 G. W. Guthrie, Section 10. In Orange Township, same company is drilling No. 1-5,045 Corwin L. Mason, Sections 21-28, and made a location for No. 1-5,081 Mark Barden, Section 26. In Mohican Township, Meltzer and others' No. 5 Michael Ott, Section 34, pumped an initial of 30 bbls. from the Berea sand from 745 to 795 feet. Ohio Fuel Gas Co. is drilling No. 2-5,047 Lola B. Smith, Section 1, Montgomery Township. In Lake Township, Robinson and others' No. 3 John P. Smith, Section 9, was dry. Same parties are drilling No. 2 Emma Jarvis, Section 32, Vermillion Township.

In Lorain County, Carlisle Township, the Daugherty Co. made an excellent gas strike on the J. M. Strong, Lot 13, from 2,297 to 2,309 feet. The Kemrow Co. drilled a light gas well on the R. C. Bailey, Lot 46, Ridgeville Township, from 2,391-97 feet.

In Wayne County, Congress Township, the Ohio Fuel Gas found a nice gas well in No. 1-4,996 J. T. Blue farm, Section 32, in the Stray sand but by deeper drilling found the Clinton lime formation dry. In Chester Township, the same company has a nice gas well in No. 1-5,011 Sam C. Martin farm, Section 18, and is drilling No. 1-5,010 Clara Beegle, Section 6. Harmon & George are drilling No. 1 J. Burch Wylie, Section 23, same township. Ohio Fuel Gas Co. has a fair oil showing in the Berea sand from 590 to 693 feet in No. 1-4,101 G. W. Garst, Section 13, Plain Township.

In Holmes County, Monroe Township, the Arkansas Fuel Oil Co.'s No. 7 William Miller farm, Lot 11, has a fair gas showing along with 3 bbls. of oil, from 3,497-3,552 feet. Ohio Fuel Gas Co. made a location on the Eliza A. Uhl, Lot 34, Hardy Township, same county.

In Cuyahoga County, the Ohio Fuel Gas Co. made a location for No. 1-5,087 on the Dr. Lee C. Garber, Lot 5.

Ashtabula County

In Ashtabula County, Colebrook Township, F. A. Brendall and others are having a time finding a pay even in the deep sands in a test on the S. and M. Kozman, Lot 41. This well made no showing from 3,517-25 feet, but got a slight gas showing from 3,532-50 feet. Red sand from 3,560-90 feet, and was dry in the Clinton from 3,590-3,642 feet. The Ohio Fuel Gas Co. is reported to have a nice showing of both oil and gas on the George W. Kelsey farm, Lot 17, Sheffield Township, same county, but going deeper. The Brendall well on the Kozman farm, Lot 41, Colebrook Township, is having a fishing job at 3,699 feet.

In Knox County, H. E. Perkins is drilling from the Berea to the Clinton lime on the D. T. Ross, Lot 21, Brown Township. East Ohio Gas Co. made a location for No. 4 Arvilla Marshall farm, Lot 7. In Jefferson Township, the Ohio Fuel Gas Co. is drilling No. 1-5,013 I. W. Rice farm, Lots 1 and 2. Upham Gas Co. has a dry hole in No. 3 on the George W. Criss, in Butler Township, from 2,810-54 feet.

In Coshocton County, Tuscarawas Township, Bell Brothers' test on the Martin Stockum, Lot 9, pumped 8 bbls. initial from the Berea sand from 875 to 914 feet. Ohio Fuel Gas Co. is drilling No. 2-4,992 Robert Giffin farm, in Newcastle Township.

In Summitt County, Franklin Township, the East Ohio Gas Co. has a good gas well in a second test on the Adam Kepler, Section 24, from 3,986-4,019 feet. In Greene Township, Harmon & George have a dry hole on the A. and V. Vansickle, Section 5, from 4,067-94 feet. F. A. Brendall and others' No. 1 Margaret Silknetter, Section 31, is a light gas producer from the Newburg sand from 3,496-98 feet. Stolz Oil & Gas Corp. is drilling No. 2 O. H. Greenho, Section 7, same township.

In Licking County, the Ohio Fuel Gas Co. is drilling No. 1-5,028 James A. Morgan farm, Sections 19 and 30, Hopewell Township. In Perry Township, Hope Construction & Refining Co. is drilling No. 5 J. C. Wright, Section 15, and No. 5 Sarah Rector, Section 9, same township.

Muskingum County

In Muskingum County, Clay Township, William Kline and others' No. 3 Ramsbottom, Section 3, is rated good for 187 bbls. the first 24 hours, from 3,572-3,621 feet. Pure Oil Co. is drilling No. 2 Jasper Ashcraft, Section 4, Jackson Township. Wittmer Oil & Gas Properties is drilling on the James Moore, Section 12, Perry Township. In Newton Township, the Ohio Fuel Gas Co. got a fari gas well in No. 1-4,980 Lloyd McCoy farm, Section 33, the pay being found from 3,418-66 feet, total depth 3,473 feet.

In Athens County, Ames Township, the Ohio Fuel Gas Co. has an average gas producer in No. 2-4,952 F. J. Beasley, Section 3, in the lower Berea sand from 1,372-85 feet, total depth 1,393 feet. Same company made locations for Nos. 1 and 2 G. L. Fleming, Section 4, same township. In Berne Township, same company struck a light gas well in No. 2-5,008 H. H. Henry farm, Sections 33-34, in the lower Berea sand from 1,590-1,608 feet, total depth 1,615 feet. Same company is drilling No. 1-5,028 O. C. Grimes, Section 34, and staked a location for No. 4 Lewis J. Elliott farm, Section 30. In Alexander Township, Townsend Oil & Gas Co.'s No. 8 Isaac Castle, Section 30, pumped 1 bbl. from the first Cow Run sand. Same company's No. 9 Sarah E. Oenrod, same section, pumped 6 bbls.

In Vinton County, Swan Township, the Wittmer Oil & Gas Properties' No. 3 on the Thomas Herrold, Section 33, is rated good for around 2,000,000 feet of gas, and is starting No. 4 same farm, but in Section 34. In Knox Township, Co-Operative Oil Co.'s No. 1 Bob Nelson farm, Section 4, reported good for 2 bbls.

In Tuscarawas County, Washington Township, the Ohio Fuel Gas Co. has a good gas well in No. 1-4,975 Anna Meek, Lot 36, pay being found from 3,643-49 feet, total depth 3,651 feet. In Goshen Township, the Federal Oil & Gas Co. is drilling on the Lewis Reichman, Lot 42.

In Stark County, Lawrence Township, the Clinton Oil & Gas Co. has a nice gas well in a second test on the Nancy A. Smith, Section 3, from 3,919-94 feet.

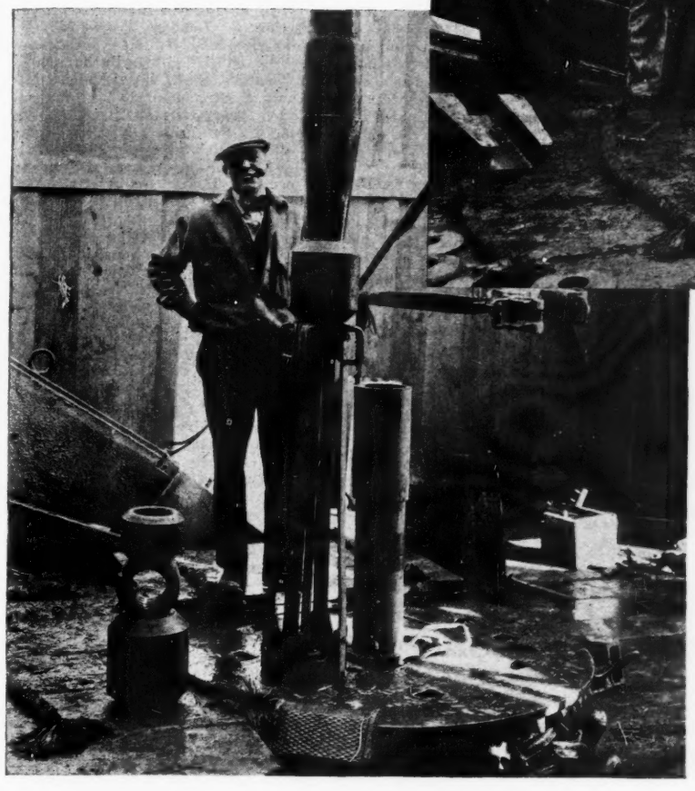
Guernsey County

In Guernsey County, Wheeling Township, the East Ohio Gas Co.'s No. 1 Gaad-Keith farm, Section 1, is reported good for an initial of 110 bbls. from the Niagara limestone formation from 3,333-3,473 feet, total depth 3,570 feet. Wiser Oil Co.'s No. 5 C. and A. Gray, Section 11, formerly reported as the North Salem Oil & Gas Co.'s well, showed an initial of 50 bbls. The top of the Niagara in this well was found at 3,240 feet and pay from 3,416-23 feet. In Cambridge Township, Ohio Fuel Gas Co. made locations for No. 1 Mahala Johnson, Section 7, and No. 1 I. J. Oldham, Section 3.

In Belmont County, Somerset Township, W. C. McBride's test on the Grant

(Continued on Page 162)

Photographs were taken at I.T.I.O. Well, Worley Heights No. 1 being drilled by Mead Bros., Inc., at Oklahoma City. Bettis Drill Stabilizers and Bettis Protectors are standard equipment.



BETTIS DRILL STABILIZERS are identical to Bettis Protectors in quality and design—simply larger in size to pass through casing from 9⅝" to 20" inside diameter. The size mostly preferred is 10" O.D. to fit 6" drill pipe. Sufficient clearance is provided to allow free circulation of mud. Should a fishing job occur, the Stabilizers keep the drill and pipe centered, providing easy pick-up.

Sizes for A.P.I. Drill Pipe

Rated Size	O.D. Drill Pipe	O.D. Expanded on Drill Pipe	Weight Lbs.
6"x16"	6 5/8"	16 1/8"	57
6"x14"	6 5/8"	14"	39 1/2
6"x12"	6 5/8"	12"	30
6"x10"	6 5/8"	10 3/4"	18
5"x12"	5 9/16"	11 5/8"	29
5"x10"	5 9/16"	10 9/16"	20 1/2
5"x9"	5 9/16"	9"	14
4"x9"	4 1/2"	9"	15 1/2
4"x7"	4 1/2"	7"	6

STRAIGHT HOLE ALL THE WAY DOWN THRU OPEN FORMATION THE DRILL KEEPS CENTERED

HOLD PIPE IN CENTER—PREVENT TWIST-OFFS—STOP WHIPPING ABOVE DRILL COLLAR—PREVENT HINGING ACTION OF DRILLING STRING—OVERCOME VIBRATION—DRILL STRAIGHTER HOLE—NO INTERFERENCE WITH OVERSHOT — STOP EXCESSIVE WEAR ON BOTTOM COLLARS.

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Drill Stabilizers

Muskingum County Has 300-Bbl. Well

Greene County, Pennsylvania, Is Busy With Oil and Gas Development. Roane and Calhoun Counties Are the Most Active in West Virginia

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Mar. 31. — The West Virginia and Southeast Ohio fields completed about the usual number of wells during the past week, several of them much better than the average, were all located in the deep sand territory in Southeast Ohio. Greene County, Pennsylvania, is the most promising of any in the local fields for gas and oil. A good deal of work is under way and starting in that county. Washington, Allegheny and Beaver Counties have very little. These three counties have been pretty thoroughly tested and closely developed.

SOUTHEAST OHIO

In the northwest quarter of Section 3, Clay Township, Muskingum County, Crowley, Carr & Co. completed and shot in the Clinton sand a second test on the Nelson McCoy farm. It produced 300 bbls. the first 24 hours, giving it the distinction of being the largest well completed in the Eastern fields since the first of the year. In the same quarter section and township, the Kachelmacher estate completed and shot in the same formation a test on the Penn Coal Co.'s property. It produced 200 bbls. the first 24 hours.

In Section 20, Upton Township, Knox County, the Pure Oil Co. completed and shot in the Clinton sand No. 5 on the W. D. Heaton farm. It produced 42 bbls. the first 24 hours. At Hibbardsville, Section 35, Alexander Township, Knox County, the Wiser Oil Co.'s test on the Charles O'Neal farm is a duster in the Berea grit.

In the northeast quarter of Section 3, Clay Township, Muskingum County, William Cline and others have completed and shot in the Clinton sand a test on the Ramsbottom Brothers' farm. It produced 75 bbls. the first 24 hours. In Section 32, Pleasants Township, Perry County, the Allegheny Oil Co. has a 3-bbl. pumper in the Berea grit at No. 15 on the W. C. Longstreth farm.

In Section 3, Perry Township, Monroe County, Martin Yester & Co. completed in the Big Injun sand No. 3 on the Gertrude Weigle farm. It is a duster. In Section 27, Grandview Township, Washington County, the Hope Construction & Refining Co.'s test on the A. Howell farm is a very light pumper in the same formation. In Franklin Township, Robinson & Ball have a gasser at No. 9 on the T. Wrisinger farm.

Licking County

In Perry Township, Licking County, the Pure Oil Co.'s No. 6 on the Hoover Brothers' farm is a 12-bbl. pumper. In the same township, the Hope Construction & Refining Co. has a 10-bbl. pumper at No. 5 on the Sarah M. Rector farm.

In the northeast quarter of Section 15, Perry Township, Muskingum County, the Wittmer Oil & Gas Properties Co. completed a test on the John Thomas farm. It is a gasser in the Clinton sand good for 3,000,000 feet. In the southeast quarter of Section 1, Reading Township, Fairfield County, the Preston Oil Co.'s test on the Samuel Smith farm is a duster in the Clinton sand.

In the southwest quarter of Section 1, Washington Township, Hocking County, the Preston Oil Co.'s second test on the James Plugharp farm is a duster in the Clinton sand. In the southeast quarter of Section 33, Coal Township, Perry County, the Chartiers Oil Co. completed in the Clinton sand No. 275 on the Hocking Valley Products Co.'s farm. It is a 3-bbl. pumper. In Section 25, Pleasants Township, Perry County, the Allegheny Oil Co. has a 3-bbl. pumper on the Longstreth farm. In Lot 36, Washington Township, Tuscarawas County, the Ohio Fuel Gas Co.'s test on the David Meek farm is a good gasser in the Niagara lime.

Monroe County

In Section 10, Franklin Township, Monroe County, C. W. Paine & Co. have a gasser on the Bert Mallett farm. In Reading Township, Perry County, the Preston Oil Co.'s test on the Samuel Smith farm is a duster. In Section 20, same township, the Planet Oil Co. has a 20-bbl. pumper at No. 3 on the David Petty farm. In Richland Township, Joseph Crawford has a duster on the Owen Smith lot. In Rush Creek Township, Fairfield County, Murl Myers is drilling on top of the sand on the Williamson & Stuart lots.

In Section 28, Aurelius Township, Washington County, Jerry Buckley's test on the Clarence Walker farm is a very light pumper. In Pike Township, Coshocton County, Spindler, Donnan & Co. have a 7-bbl. pumper in the Clinton sand at No. 6 on the Wolford farm.

In Union district, Knox County, the Pure Oil Co.'s No. 5 on the W. D. Heaton farm is good for 25 bbls. a day. In Section 20, Lawrence Township, Washington County, S. E. Edwards & Co. have a very light pumper in the Cow Run sand at No. 15 on the John Bush farm.

In Section 9, Ludlow Township, Washington County, the Square Deal Oil Co. has a duster in the Berea grit at a second test on the Martin Edwards heirs' farm. In Richhill Township, Muskingum County, the Atha Oil Co.'s test on the Harry E. Elliott farm is a duster. In Seneca Township, Noble County, C. W. Rich & Co. have a 2-bbl. pumper in the Berea grit at No. 3 on the Arthur H. Rich farm.

In the NW Section 4, Harrison Township, Perry County, Westbrook Brothers and others completed and shot in the Clinton sand a test on the Koontz-Detrow and Frash lots. It produced 50 bbls. the first 24 hours.

In Section 35, Bethel Township, Monroe County, the Sylvania Producing Co. completed in the Squaw sand No. 6 on the C. W. Winland farm. It produced 45 bbls. the first 24 hours after shot. In Section 4, Washington Township, M. Stoffel and others completed in the Big Injun sand a light gasser on the Edgar Hall farm.

Vinton County

In Section 3, Knox Township, Vinton County, the Hope Construction & Refining Co. has a very light pumper at No. 2 on the D. W. Doss farm. In Section 4, same township, N. C. Farmer and others have a gasser at No. 3 on the John and Louise Stanley farm. In Section 34, Brown Township, the Ohio Fuel Gas Co. has a very light pumper at No. 4 on the J. M. Elliott farm.

In Section 30, Alexander Township, Athens County, the Townsend Oil & Gas Co. has a light pumper in the Cow Run sand. In Knox Township, Jefferson County, Harry E. Tope & Co. have a light pumper at No. 3 on the W. R. Edmon farm.

In Lot 11, Monroe Township, Holmes County, the Arkansas Fuel Oil Co. completed and shot in the Clinton sand No. 7 on the William Miller farm. It produced 31 bbls. the first 24 hours. In the NE Section 12, Union Township, Muskingum County, the Pure Oil Co.'s test on the J. C. Wilson farm is a duster.

Athens County

In Alexander Township, Athens County, the Wiser Oil Co. is drilling on the Charles O'Neal farm. In Waterloo Township, the Ohio Fuel Gas Co. is drilling a Clinton sand test on the T. N. Hoover farm. In Springfield Township, Jefferson County, Brown, Vorhees & Co. are drilling on the Dorrence heirs' farm. In Section 3, Louden Township, Carroll County, G. W. Elliott and others are drilling on the H. G. Buchannen farm. In Sutton Township, Meigs County, Kuntz & Strachman are drilling on the Arthur Beegle farm. In the same township, the Southeast Ohio Petroleum Co. is drilling a deep test on the Southeast Ohio Petroleum Co.'s farm. In Salem Township, Monroe County, the Wittmer Oil Properties Co. is drilling on the Theodore Burns farm. In Richland Township, Holmes County, the Ohio Fuel Gas Co. has a rig up on the Alonzo McFadden farm. In Ripley Township, the same company has spudded in on the Desbro Campbell farm.

WEST VIRGINIA

In Ellsworth district, Tyler County, West Virginia, Warden & Co. have now drilled their test on the S. S. Travis farm through the Keener and Big Injun sands. It is dry in both formations. In Clark district, Harrison County, the Hope Construction & Refining Co. has drilled a test on the M. A. Nuzbaum farm through the Speechley sand. It is a fair gasser. In Ten Mile district the Reserve Gas Co. has a rig up on the Stephen Pitt farm. In Coal Township the same company is cleaning out to drill deeper its second test on the T. J. Thompson farm.

In Scott district, Boone County, the United Fuel Gas Co. has a gasser at No. 4,068 on the Horse Creek Coal & Land Co.'s tract. In Curry district, Putnam County, J. V. Reisman's second test on the W. M. Grass farm is a gasser in the Big Injun sand. In McComas district, Cabell County, the Cambridge Gas Co. has a gasser on the Robert Johnson farm.

In Grant district, Cabell County, the Hamilton Gas Co. has a gasser on the Oscar and Flora Nelson farm. In Sheridan district, Lincoln County, the Empire State Gas Co. has a gasser at No. 14 on the Jessie Courts farm.

Ritchie County

In Murphy district, Ritchie County, the Hope Natural Gas Co. has a 15-bbl. pumper at No. 6 on the Neil Bradley farm. In the same district the same company has a gasser at a second test on the L. A. Cain farm. In Grant district, Ritchie County, J. G. Chatyrt has a 4-bbl. pumper at No. 5 on the B. W. Foutty farm. In the same district the Astron Oil Co. has a rig up on the Herman Strusburg Realty Co.'s property. In Clay district, R. O. Davis is drilling in the sand on the George S. Lemon farm.

In Cameron district, Marshall County, the Manufacturers Light & Heat Co. completed in the Gordon sand No. 3,042 on the W. H. Howard farm. It is a fair gasser. In Lincoln district, Marion County, Walter McGlumphrey has a gasser on the O. D. Smith farm. It got its gas in the Salt sand.

In Grant district, Ritchie County, the Hope Natural Gas Co.'s No. 1,135 on the Elizabeth Cain farm is a gasser in the Berea grit. In the same district, H. N. Rinehart has a very light pumper at No. 3 on the Daniel Donley farm. In the

(Continued on Page 148)

GAS WELL IN CHRISTIAN COUNTY, KY., ENCOURAGES HOPE FOR OIL POOL

By Whit
Staff Correspondent, Kentucky-Tennessee

OWENSBORO, Ky., Mar. 31.—After a three months' shutdown of development work in the Tri-County Field, comprising Ohio, Daviess and Hancock Counties, the operators are going ahead at a rapid rate in starting new wells and it is up to the operators to rely on their judgment in holding new production to a minimum, as the pipe line handling the bulk of the product in the field has to store approximately 1,000 bbls. a day. At the rate some of the new wells have been completed since the shutdown ended the pipe line will have additional oil for storage, which may affect the price of crude in the field. The Stray sand area of Ohio County in the Barnetts Church, and other pools is bound to increase the daily oil production. Six Stray sand wells have been completed that produce from 100 to 225 bbls. each and a number of wells in the rich producing area are nearing the sand which will increase further the daily production.

One of the late features in the western Kentucky area is the bringing in of a gas well reported good for 2,000,000 feet by Charles Young and others on the Dr. Charles Cross farm, near Crofton, in Christian County, the second good find made in that county. The belief among the oil people is that a good oil field will soon be uncovered in that county. The well on the Cross farm got its gas at a very shallow depth of 561 feet. Some new work is being planned for the Greenville Field, in Muhlenberg County, where production holds up above expectations, and the No. 3 R. O. Kennedy farm and No. 1 Bradshere farm, in the Greenville Field, are said to produce 100 bbls. each daily from the McCloskey formation. Another area attracting attention is the eastern and southern part of McLean County, as wells there of recent date indicate a fairly good field. Henderson County is to get a heavy play from now on, as the oil is now being marketed from the Niagara Field in that county. The next few weeks will see a great amount of wildcat work over many of the counties in the western part of the State, as well as in the southwestern portion. One of the latest pools to be uncovered is near Magan Station, midway between the Friendship Church Pool and the Sunnydale Pool in northern Ohio County, and numbers of drilling machines are moving into the new district. Doctor Sirman expects to have several strings running in the new pool and the Friendship Church Pool, which are only a few miles apart. The Magan Pool was opened by the Ohio Oil Co. by a nice showing in the Jett sand at a comparatively shallow depth on the Calloway farm, near the Basham School, but is going to the Barlow to test the deeper sand. There are at least 10 machines working in this pool.

Ohio County Wells

In the Buford Pool, sometimes called the Wiggington Pool, Smith and others' Nos. 5 and 6 on the J. W. Dawson farm, produced initials of 200 and 225 bbls. from the shallow Stray sand. C. M. Root's No. 7 Nancy C. Wiggington, same pool, produced 150 bbls. the first 24

(Continued on Page 165)

Never-ending search for truth

Today, in a locked room in the Crane laboratories, can be seen a cherry-red bar of metal. In a specially devised air-tight cylinder, under constant temperature of 1600°F., at fixed stress, it is being given the 1000 hour "flow" test. At the same temperature, at various stresses, it will be given the same test for the same time-period.

The tests are being made at the request of an oil man who has asked for valves for an experimental still, to operate at 1500° and 2500 pounds. Can he have them? At the end of the exhaustive tests, Metallurgist L. W. Spring will be able to tell him, exactly, authoritatively.

Since the first Crane chemical and testing laboratory was founded in 1888, thousands of similar questions so vital to safe and economical industrial progress, have been asked and answered. The contribution made by Crane metallurgists to scientific knowledge of the reaction of metals under high pressures and temperatures is known and respected throughout the world, is familiar to every oil man who has used the cracking process.

The search for new truths to make industry free goes on. New discoveries are made. This progress is found reflected in Crane materials.

Whether the need is for stock valves or for piping materials for arduous conditions heretofore untried, oil and gas men are invited to bring their questions to Crane Co. In order that the knowledge gained through the years may be available wherever oil and gas are produced, transported, or refined, Crane Co. maintains specialists in valve engineering and piping layout at strategic points throughout the country. A request will bring them to you.

CRANE

PIPING MATERIALS TO CONVEY AND CONTROL STEAM, LIQUIDS, OIL, GAS, CHEMICALS

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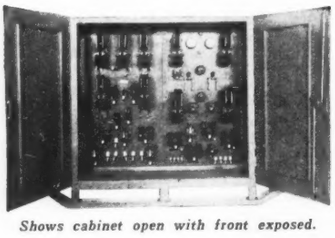
EQUIPMENT AND SUPPLIES

DEVICE MEETS VARIED DRILLING CONDITIONS

Extreme flexibility of control, increased drilling speed, and adaptability, both electrically and mechanically, to widely varying operating conditions are obtained with a new direct current variable voltage drilling equipment recently



Shows cabinet open with front exposed.

developed by the Westinghouse Electric & Manufacturing Co.

This equipment comprises two 125 kilowatt, 125 volt, direct current generators with direct connected exciters supplying power to a separately excited 125/250 horsepower, direct current drilling motor and a separately excited 125 horsepower mud-pump motor, and a complete control.

During drilling operations one generator supplies power to the mud pumps and the other supplies power to the drilling motor. In hoisting, the two generators are placed in series to give combined power of the generators and double speed on the drilling motor for fast hoisting operations.

Fast hoisting speeds are increasingly important as the depths of wells more and more nearly approach the 2-mile mark. With faster hoisting, well completions are speeded up because the bit is actually on bottom a greater portion of the total time.

The entire control for generators, drilling motor and mud pumps is selfcontained and enclosed in a sheet steel cabinet mounted on skids to facilitate handling in the field. The control is arranged so that either generator can be used for either the mud pump or the drilling motor.

Operation of the control can be obtained by means of the telegraph cord connecting the master switch with the control wheel on the draw-works post. Suitable pushbuttons for magnetic operations are also placed on the draw-works post.

TO HAVE LOS ANGELES PLANT

The Arco Co. of Cleveland has selected Los Angeles as the location for its new paint plant to serve the western, Latin American and the Oriental trade. A survey of western and export business conditions by S. D. Wise, president, and S. D. Weil, vice president, was responsible for the decision to construct a West Coast plant. The plant will consist of three brick buildings, with metal trim and concrete floor construction, totaling 16,500 feet of floor space. The factory buildings will include a paint manufacturing plant 100'x100', a lacquer plant 50'x100' and a varnish plant 30'x60'. The new plant's output will include the company's complete line of paints, lacquers, varnishes and enamels. The new factory will be known as the Arco Co., Ltd., of California and will be under the general direction of Howard Wise. Howard Raeney will be general sales manager and E. B. Hagar, who has been manager of the San Francisco branch, will be made district manager with headquarters in Los Angeles. The Arco Co. operates factories in Cleveland and in Toronto, Ontario, Canada.

OPENS NEW YORK OFFICE

The American Asphalt Paint Co., Chicago, announces the opening of its New York branch office at 393 Seventh Avenue. The San Francisco branch is at 1 Montgomery Street. The company also announces the opening of an office and warehouse in Houston, Tex. Its new plant in Kankakee, Ill., is now in production to serve the midwest trade; the plant in Lincoln, N. J., now being devoted to eastern and export trade.

CP BRANCH OFFICES OPENED

The Chicago Pneumatic Tool Co., New York, announces the opening of new branch offices in Houston, Tex., Oklahoma City, Okla., and Tulsa. Service stations and warehouses have been established at both Oklahoma City and Houston, where air and gas compressors, engines, pneumatic and electric tools, rock drills, etc., will be carried as well as parts for servicing.

VISITS FOREIGN DISTRIBUTORS

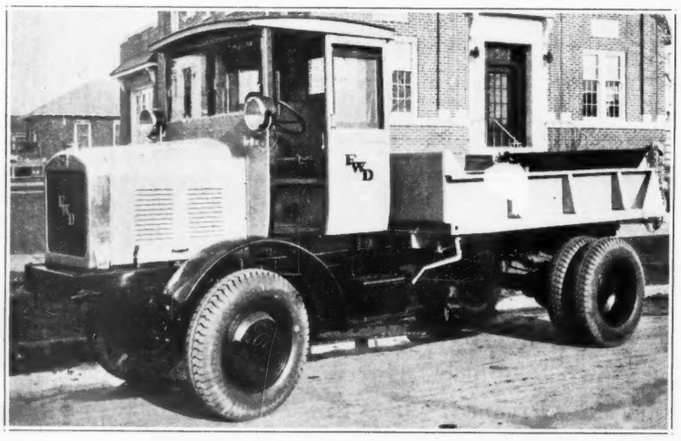
E. L. Reichard, export manager for the LaFrance-Republic Corp., Alma, Mich., started recently on a three months' trip which will take him to all of the principal cities of Mexico, Cuba, and Central and South America. Mr. Reichard will call on each of the La France-Republic distributors, analyzing the truck markets, and familiarizing himself with truck transportation problems.

SAFETY SLIDE FOR DERRICK

The H and T safety slide has been developed to meet the demand from oil producers for a device which will enable a derrick man to escape quickly and safely from the derrick in case of emergency. The slide was developed by two engineers from one of the leading oil companies after several years of experimenting. It weighs only 12 pounds. When the derrick man goes on the tower he carries the slide slung on his shoulder. It does not interfere with his hands. When he reaches the fourble board, he clamps the slide to a guy wire by simply closing the hand brake. In case of emergency the man on the derrick places one leg through the leg sling and releases the slide by a slight pressure of his hand. The slide immediately runs down the tight or slack guy wire. The speed of descent is regulated by the brake shoe on the slide. The shoe is made of Stellite which in no way damages the guy wire. The simple and positive acting brake makes it possible for the derrick man to slow up or stop at any point on the guy wire without jerking. The H and T safety slide is distributed from all offices of Bullard-Davis, Inc., manufacturers and distributors of safety equipment.

Ray Sexton, representing W. C. Norris, manufacturer, of Tulsa, in the Fort Worth, Tex., territory for the last three years, has been transferred back to the Tulsa office as city representative.

FOUR-WHEEL DRIVE AUTO CO. ANNOUNCES NEW TRUCK



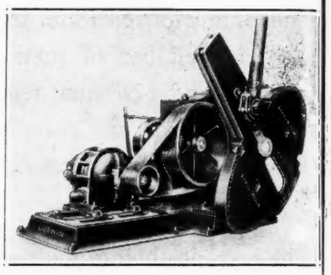
The Four Wheel Drive Auto Co., Clintonville, Wis., announces a 2½-ton capacity four-wheel driven truck, designated as Model HH-6. The truck is powered by a 6-cylindered motor of 67 brake horsepower. This engine is of the seven-bearing crankshaft type, with a bore and stroke of 3¾ by 4¾ inches respectively, giving a piston displacement of 315 cubic inches. The cylinders are cast en bloc, with a removable ricardo head. An improving feature is the installation as standard equipment, of the Blue Flame manifold, designed to intensify the explosion power within the cylinders. The oil is forced from a special base, designed to keep the oil surface level under all road conditions, through a complete oil filter equipment. A vacuum tank is used to supply the Zenith carburetor from the big capacity gas tank under the driver's seat.

The clutch is of the dry multiple disc type with eight drive and eight driven discs, especially designed to prevent slipping or grabbing. The seven-speed transmission, placed amidship, is the equivalent of two four-speed transmissions, one of them direct in fourth speed and with low low-speed for usual road and grade conditions, and the other direct in third speed, over-drive in fourth that provides for fast traveling.

From the main transmission the power is carried into the center or subtransmission, located midway between the front and rear axles. The subtransmission consists of two silent chain pinions, the 5-inch silent chain, the center differential, all enclosed in a semisteel case and operating in an oil bath. The center differential is necessary in all four-wheel-driven trucks in order to compensate for speed differences between the axles; the distinctive feature of all FWD center differentials is the ability mechanically to lock them by a lever in the cab, thereby destroying the compensation where traction otherwise cannot be obtained on either set of driving wheels.

LUFKIN UNIT EMPLOYS NEW TYPE OF GEARING

The Lufkin Foundry & Machine Co., Lufkin, Tex., is now producing two sizes of the new pumping unit employing the Sykes-Herringbone type of gearing. These are the standard, 5½-inch, and the heavy-duty, 6½-inch. More than 100 of the



new machines are reported to be in use.

The Sykes-Herringbone gear is said to be strong, efficient and silent in operation owing to continuity of tooth contact peculiar to this type of gearing. This gearing also provides the maximum contact for a given width of face and back lash is practically impossible owing to elimination of thrust. Bearings in the new unit are antifriction type throughout with Hyatt roller bearings in the pinion shaft.

New equipment has been installed in the Lufkin plant for the manufacture of this unit, the most interesting of which is the special equipment for making the teeth on the gear and pinion and the special lapping in machine for matching and insuring precision of these units. The design of the unit permits the use of any type of prime mover. The Trout counterbalance crank is used.

NEW TRACKSON DISTRIBUTORS

The Trackson Co., Milwaukee, Wis., has appointed the following new distributors, who will handle Trackson tractor equipment for McCormick-Deering tractors: The Highway Equipment Co., Columbus, Ohio, for the Columbus territory; Industrial Tractor & Equipment Co., Cincinnati, Ohio, for the Cincinnati territory; the Fred D. Marshall Co., Columbia, S. C., for South Carolina; H. O. Penn Machinery Co., New York, for the New York city territory; and the Raleigh Road Machinery Co., Raleigh, N. C., for all of North Carolina. These distributors will handle Trackson crawlers, shovels, cranes, hoists, etc.

COMPANY ADDS TO ITS PLANT

The Connersville Blower Co., Inc., Connersville, Ind., has awarded a contract for the immediate construction of a 25'x125' addition to its Victor department. This additional space will be used for a rearrangement of equipment in the production of Victor rotary positive blowers and gas pumps, also Connersville meters of the smaller capacities which are applied to an increasing number of industrial processes, including combustion in oil or gas burners, aeration and agitation of liquids, pneumatic tube systems, etc., and as auxiliary parts of special machinery.

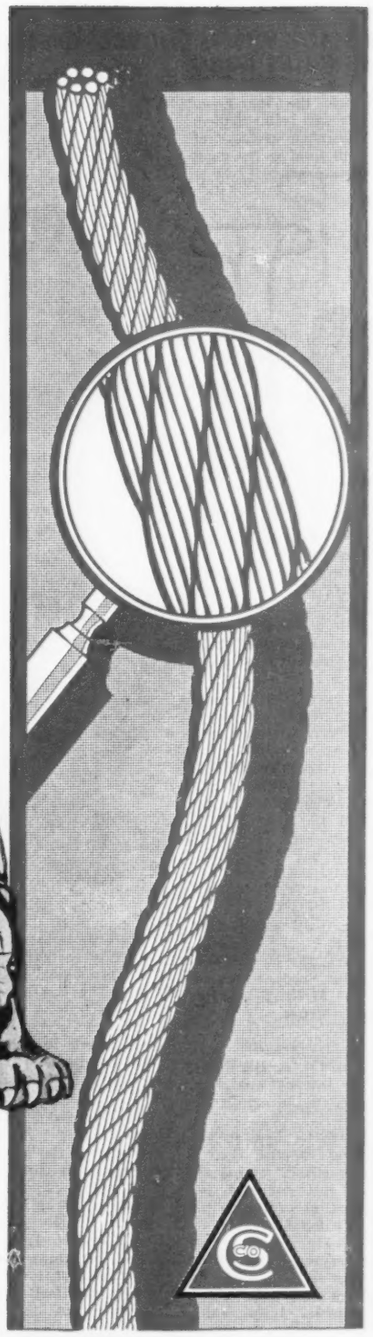
The second biennial National Western Metal Congress and Exposition will be held in the Civic Auditorium in San Francisco, Calif., the week of February 16, 1931, W. H. Eisenman, secretary of the American Society for Steel Treating, announces.

WIRE LINES LOOK PRETTY MUCH ALIKE

SO EXPERIENCED USERS PLAY SAFE BY USING

AMERICAN WIRE LINES

(ON THE YELLOW REELS)



"If Continental Sells It.... There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: ST. LOUIS

THE CONTINENTAL SUPPLY CO., LTD.
224 Traders Building, Calgary, Alberta, Canada

Export Offices: CONTINENTAL EMSCO COMPANY, INC. 74 Trinity Place New York
London Offices: 316-17 Dashwood House, Old Broad St., E. C. 2

CONTINENTAL

EQUIPMENT AND SUPPLIES

ROTARY SLIP MADE WITH LINERS 18 INCHES LONG

To keep pace with the increasing depths to which wells are being drilled, with the resulting enormous weights of casing or drill pipe and fluid which must

Showing easily replaceable liners and extra long gripping surface of Baash-Ross 18-inch rotary slips.

be supported by the rotary slips without crimping the pipe, the Baash-Ross Tool Co., Los Angeles, Calif., has brought out a newly designed rotary slip with liners 18 inches long. This provides ample gripping area to take care of the heaviest strings without excessive pressure against the pipe.

The popular features of the previous design are retained, as shown in the accompanying illustration. Two set screws hold the liner retaining plate rigidly in place during use, but require only a few turns to release it and permit sharp liners to be inserted. The recess in the slip body into which the liners fit is dovetail shaped, so that even if the liner broke in two, it could not fall out.

BUSINESS NOTES

The annual report of the Emsco Derrick & Equipment Co., Los Angeles, Calif., shows net earnings in 1929 of $1,129,746. The surplus account was increased $549,746 to $1,732,753, after paying $580,000 in dividends.

Raymon C. Kincaid, formerly with the Humble Pipe Line Co. at Big Lake, Tex., is now with the International Derrick & Equipment Co., in Luling, Tex.

The year 1929 was the best in the history of the General Electric Co., in volume of orders received, shipments billed, total profits and earnings per share of common stock, according to the annual report of the company.

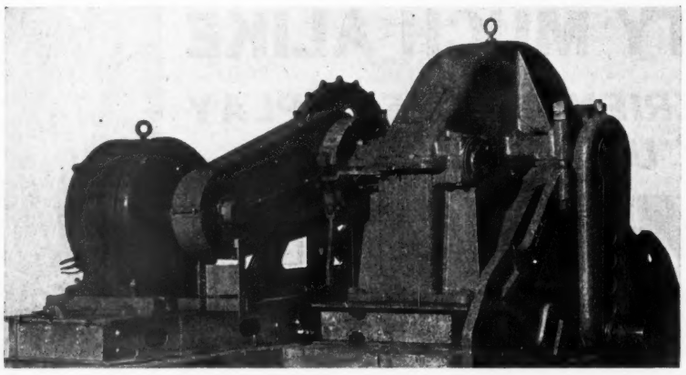
A. B. Schnitter, representing Byron Jackson Co., Los Angeles, Calif., has established headquarters and sales office in Maracaibo, Venezuela, from which point he will cover various South American fields.

The Bridgeport Machine Co., of Wichita, Kans., manufacturer of oil field equipment, has appointed G. R. Elliott advertising manager. Mr. Elliott was formerly advertising manager of the Skelly Oil Co., in Tulsa.

LONG SALES AGENT FOR TEXAS

John R. Long, Fort Worth, Tex., has been appointed sales agent and distributor in Texas for the American Hammered Piston Ring Co., Baltimore, Md. Mr. Long plans to carry complete stocks of American hammered piston rings in his Fort Worth warehouse, available for prompt shipment. He is Texas representative also for the Robinson Packer Co. and the Petroleum Equipment Co.

IDECO OFFERS HEAVY-DUTY REDUCTION-GEARED UNIT



The International Derrick & Equipment Co. has developed a heavy-duty reduction-geared unit suitable for all oil field production operations, pumping, reworking, pulling rods and tubing, bailing and swabbing. It is designed to deliver 96 to 97 per cent of the power at full load and have a 100 per cent overload capacity for starting and intermittent periods. It is furnished with a long crankshaft and an outpost bearing and is equipped with a drive sprocket for driving a hoist on the derrick. The sprocket is mounted upon the bearing housing and does not ride and wear on the shaft. The sprocket engages with the shaft by means of a jaw clutch.

The crankshaft made of 6-inch hot-rolled turned and polished steel, is mounted on bearings which form an integral part of the gear housing. A six-hole 72-inch crank for the Ideco crank counterbalance is regularly furnished with this shaft.

Double helical cut heat-treated continuous tooth Sykes herringbone gears are used in this unit. The large or low-speed gear is keyed rigidly to the crankshaft and meshes with a small pinion gear, producing a 12 to 1 speed reduction. The Sykes continuous tooth herringbone type of gear deliver from 98 to 99 per cent of the power, are continuously in mesh and have a 100 per cent starting overload capacity. The gears are made of heat-treated steel with cut teeth.

The crankshaft is mounted in heavy brass bearings; American roller bearings are used on the outpost bearing and rollway roller bearings on the pinion shaft. The unit is mounted upon a galvanized structural steel base which has an extension for the motor. A dirtproof, oiltight, semisteel housing encloses the gears. It supports the crankshaft in bearings that form an integral part of the housing itself and eliminates the need of jack posts and jack post bearings.

The pinion shaft is driven from the motor by a silent chain. An improved oil bath system of lubrication keeps the main crankshaft and pinion bearings continuously bathed in oil. The outpost bearing has Alemite lubrication. The clutch sprocket for operating calf wheel, production hoist or sand reel using A.P.I. No. 3 chain is regularly furnished. This sprocket, mounted upon a stationary hub bolted to the outpost pedestal, rotates only when the clutch is engaged.

A combination pinion brake and flywheel is provided on the small pinion shaft. The brake is for convenience in stopping the crank in any desired position to facilitate attaching the pitman, applying the counterbalance or throwing in the jaw clutch. The flywheel smooths out the load and reduces vibration.

The Ideco long-stroke crank counterbalance is used with this unit. Its wide range of adjustments makes its possible to balance the weight of the rods and fluid accurately and effectively. The flywheel effect smooths out power peaks and materially reduces power requirements.

TUBE-TURNS DISTRIBUTORS

Appointment of the E. F. Keating Co., New York; Himelblau-Agazim & Co., Chicago; and Stewart Machinery Co., St. Louis, Mo., as distributors is announced by Tube-Turns, Inc., Louisville, Ky. Each of these companies will carry complete stocks of tube-turns in 45, 90 and 180-degree types. Tube-turns are seamless drawn, short radius fittings for pipe welding. The company also has announced that W. P. Curley and A. L. Breyvogel will continue as managers of the New York and Chicago branch offices, respectively.

TRUCKS MEET OIL NEEDS

Various types of trucks are required for efficient transportation in the gasoline and oil business. The Dodge Brothers fleet operated by the Red Raven Oil Co., of Cleveland, Ohio, includes tank trucks, stake and panel bodies. Dodge Brothers transportation engineers working with officials of the oil company helped to determine the right capacities, wheelbase lengths, wheel, tire and body equipment. Dodge Brothers trucks are engineered to the work they are to perform, and according to the manufacturers they meet 96 per cent of all hauling needs.

DESIGNED TO MAKE FAST HOLE IN ANY FORMATION

The Alco Type O bit was designed particularly to make fast and straight hole in any formation. Of the familiar "drag" type, it yet has features that are radically different. This new bit has four rows of serrated or "toothed" cutters at right angles to each other. By means of this design the bit presents a larger cutting surface in proportion to its outside diameter. The inner teeth are shaped to dig in and "plow," the outer blades taking a shearing cut that leaves the sides of the hole clean-cut and even.

Like all Alco bits, the Type O has all cutting edges and surfaces protected with hard-facing metal, and set with high quality diamond substitute.

TO BUILD $250,000 PLANT

The Midwest Piping & Supply Co., St. Louis, Mo., has purchased a site of approximately 2 acres in Houston, Tex., for the construction of a $250,000 plant. This company, which manufactures pipe for oil refineries, natural gasoline plants, pumping stations and for other oil field uses, will employ more than 50 men in its Houston branch plant. It is expected this plant will be ready for operation by May 15. Other plants are maintained in Los Angeles, Calif., and Passaic, N. J.

TRADE LITERATURE RECEIVED

"The Vent," published by the Gilbert & Barker Manufacturing Co., Springfield, Mass., contains news about employes in all departments.

The American Rolling Mill Co., Middletown, Ohio, has issued an illustrated booklet telling "Why Armco Ingot Iron Pipe Gives Long Service." Useful engineering information is included.

Wilson-Snyder, Pittsburgh, Pa., builders of heavy duty pumps, have issued a 4-page illustrated bulletin on Wilson-Snyder hot oil pumps, of which the manufacturers say there is an economical type for every petroleum cracking unit.

An article on sand-blasting tank cars, adapted from one by B. F. Spigener, of the Columbian Gasoline Corp., in a recent issue of The Oil and Gas Journal, appears in the current number of the Dutch Boy Quarterly, published by the National Lead Co., New York.

BRODERICK & BASCOM ROPE CO. MOVES INTO NEW HOME

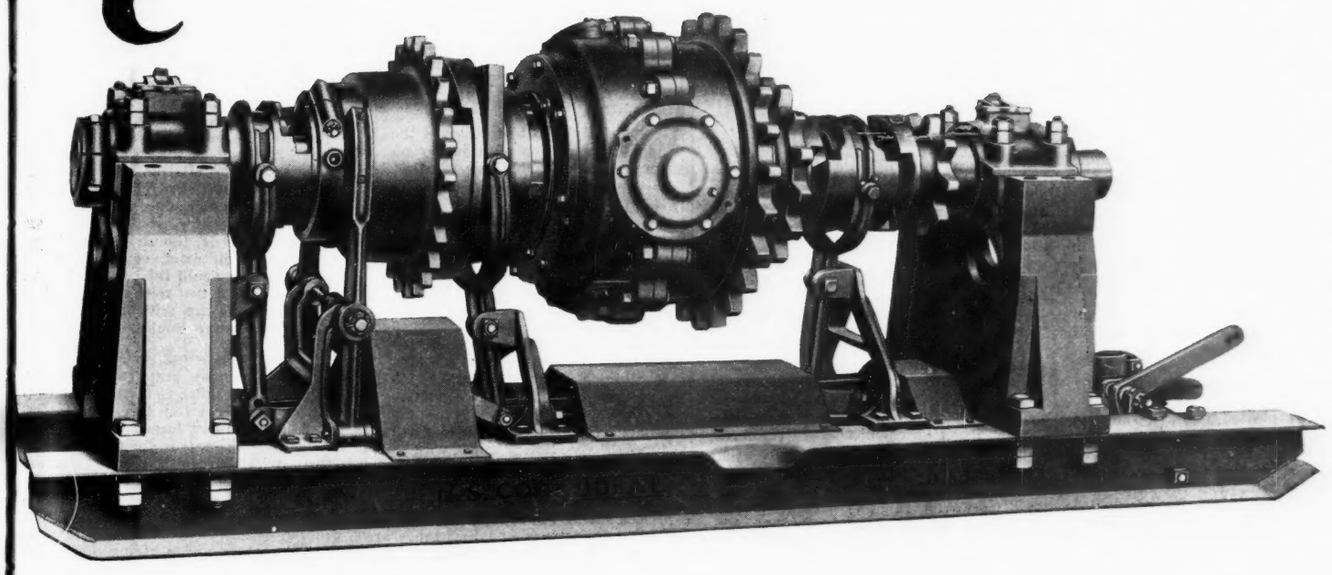
The Broderick & Bascom Rope Co., manufacturer of Yellow Strand products, has moved into its new office and warehouse building adjoining the company's St. Louis factory. The new structure conforms architecturally with the factory buildings. The group fronts on Union Boulevard. The executive offices and the general office occupies the entire second story of the new building. On the ground floor the northern (right) half is given over to the tramway department. The rest of the main floor, including a long, wide one-story extension, is devoted to the storage of finished ropes. The immense warehouse is arranged to reduce to a minimum the handling and hauling of heavy reels.

View of the new warehouse.

JARTON

CONTROL

"C



Automatically regulates the proportion of the weight of the drill string applied to the drill bit in accordance with the variation in the resistance to the rotation of the drill bit.

Descriptive Bulletin
No. 70
Sent on Request

PPLY COMPANIES

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

THICKNESS OF SAND

I would be pleased to have you give me information on the following: Where the depth shows Wilcox sand at 4,186-4,213 feet, does it mean that the sand is 27 feet thick? Also does the drill enter that distance, or is the sand drilled through to the bottom? What is usually the length of the "flush production" of the average well in Oklahoma? What may a person reasonably expect the life of a well or leasehold to be where the production is over 4,000 bbls. initial?—E. E. V.

The well you refer to penetrated the Wilcox sand a distance of 27 feet. It entered the top of this formation at a depth of 4,186 feet below the surface of the ground and the hole was drilled to 4,213 feet, or a distance of 27 feet.

This does not indicate the total thickness of the Wilcox formation at that point, nor does it indicate that all of this sand thickness is productive. It simply indicates where the drill penetrated the top of this formation and how much further the drillers went before they ceased drilling.

In bringing in a well of this kind it is the common practice to drill ahead a few feet at a time and to stop drilling when it is apparent that no gain in production is being gained by deepening the well. It may be that at some later date the operators will decide to deepen this particular well, or the well may drill itself into deeper production.

It is fairly safe to state that this was not the bottom of the Wilcox formation where the well was stopped, for it is good practice not to drill through the formation, or even too deeply into it, for it is possible, and even probable, that there will be water below the oil in the formation and if the well is drilled into that water zone the well would not be as good as it would be if only drilled in the oil zone of the sand.

The term "flush production" is rather vague. Some wells have only a few barrels production when first drilled in and never make much oil, but as the term is usually understood this would be flush production, or the production from a new well.

On the other hand some wells make many thousands of barrels per day when first drilled and may continue to flow at this initial production rate until they suddenly go to water or cease to flow through some mechanical trouble. Others decline gradually. So it is hard to say what is the length of flush production for the average well in Oklahoma. This is further complicated at this time because most new fields are prorated as quickly as brought in and this will lengthen the time required to recover the oil.

Likewise it is difficult to determine the life of a well that had an initial production of 4,000 bbls. daily without knowing full details of that particular well. The depletion curve can be worked out for each well or lease but it is the work of valuation engineers and requires detailed study and also necessitates the collecting of data.

COLLOIDAL SUSPENSION

I have found the expression "colloidal suspension" in The Oil and Gas Journal and in other reading matter and I looked in my dictionary for the meaning, but I did not get much help there. It is used quite often in articles about emulsions and about rotary drilling mud. Will you give me the meaning of this expression so that it can be understood?—D. E. I.

The term "colloidal suspension," used frequently in chemical literature and in technical articles on certain phases of oil production, is explained by the use of a helpful illustration in McPherson & Henderson's book on chemistry.

If we shake a bottle containing coarse sand and water and then set it aside, the sand quickly settles to the bottom. The finer the sand is powdered, the longer the time required for settling. If we could grind the sand into individual molecules and then shake them with water, we should have a true solution that would not settle because of the energy of motion of the molecules.

It would seem probable that long before subdivision into individual molecules had been reached, we should have particles so small that when shaken with water the resulting mixture would possess characteristics different from those either of an ordinary suspension or of a true solution. A mixture of this kind, intermediate between a suspension and a true solution, is called a colloidal suspension, or often a colloidal solution, and the solid material so scattered, or dispersed, is said to be a colloid, or in colloidal condition.

Evidently we may have in suspension particles of a wide range in size. When we pass below a rather definite size the suspension begins to acquire the properties we associate with colloids, and when we go below another rather arbitrary point the suspension begins to act more like a solution.

We have already seen some resemblance between a colloid in liquid suspension and dust particles in the air. When the particles in the air are numerous enough we call it smoke. In a similar way a very fine suspension of droplets of water in air is called fog; droplets of liquid scattered through a second liquid constitute an emulsion; minute bubbles of a gas in water constitute foam. All of these have the structure that characterizes colloids in that they consist of one form of matter in a very fine state of dispersion scattered through a second form.

OIL PROSPECTS IN ALABAMA

Information that has been given me is to the effect that oil is likely to be found in northern Alabama. I have an interest in some land in Morgan County, but I have not given it much attention until I was told that there were prospects for getting oil in that part of the State. I would be grateful for any information you could give me as to the likelihood of finding oil there.—S. T. N.

It is not within the province of this department to offer any guesses as to where oil is likely to be found. It is desired to be as helpful as possible, however, and the following report of the state geologist of Alabama, Walter B. Jones, regarding the region to which you refer is offered:

"The most striking indications of oil in northern Alabama are the asphalt and maltha showings. Tar springs and impregnated sandstones and limestones are found in Colbert, Lawrence and Morgan Counties, and occasionally in Cullman and Winston Counties. The asphalt content ranges from 3 to 12 per cent and the impregnated areas are often of considerable extent and are to be found in a belt 70 miles long and several miles wide, extending from the Mississippi line across Colbert, Lawrence and Morgan Counties, following approximately the outcrop of the formations in which they occur. These showings occur usually as impregnations in the Hartselle sandstone, but occasionally strata of the Bangor limestone are found impregnated. One of the most important occurrences in the State (Margerum area), is in the lower oolitic facies of the Gasper formation. The following are the most important locations, together with the formations involved:

"Colbert County: Littleville area, Hartselle sandstone; Shine Springs area, Hartselle sandstone; Margerum area, Gasper limestone; Cherokee area, Hartselle sandstone.

"Lawrence County: Town Creek area, Hartselle sandstone; Cappo area, Hartselle sandstone; Copsey Creek area, Bangor limestone.

"Morgan County: Hartselle area, Hartselle sandstone; Flint area, Hartselle sandstone; Adams Farm, Section 13, Township 7s, Range 5w, Hartselle sandstone; SE, Section 10, Township 7s, Range 5w, Hartselle sandstone; Basham Gap, NW, Section 20, Township 8s, Range 5w, Bangor limestone; Stentson asphaltum mine, SE, Section 10, Township 8s, Range 3w, 4½ miles east of Falkville, Bangor limestone.

"In addition to the surface indications of oil in North Alabama, shows of oil and gas have been encountered in most of the wells drilled in the region. These shows are tabulated in the list of wells for northern Alabama.

"The interest aroused by the discovery of gas in commercial quantities near Amory, Miss., in 1925, has stimulated development, which has already extended to the Alabama line, and even during the present lull in the oil industry, greater activity in Alabama in the counties adjacent to this development is evident, and as soon as the price of crude oil rises and interest in wildcatting revives, it is certain that this area will be more thoroughly tested before it is condemned.

WHY WAS IT CALLED THAT?

JOCKEY STICK

Somebody who had observed the undulating motion of a jockey on a racehorse probably was the first to apply the name "jocky stick" to the piece of 1-inch pipe (sometimes a wooden rod is used instead) extending from the headache post to the wire line drilling clamps, to keep the clamps from turning during drilling. The pipe is usually 1 inch in diameter and 8 feet long. One end is fastened to the clamps. The other is hinged on the headache post by running it through a short length of 2-inch pipe bolted to the post. As the wire line rises and falls the jockey stick rides back and forth through the 2-inch pipe with a slight up-and-down motion.

SHOULD DRILLING CONTINUE?

There are at present three test wells for oil being drilled in this State with what is considered by geologists good chances for producing oil. This company is down 1,000 feet with first 12½-inch and later 10½-inch casing to 620 feet, shutting off all surface water. At 932 feet we struck salt water, which rose to 88 feet of the surface. Two minor oil sands were encountered on the way down. For financial reasons we have not attempted to case off this salt water, nor are we in a sufficiently hard formation to set a string of casing. We had a dry hole with no water whatever from 620 to 932 feet. If the drill should now pentrate an oil sand, could the oil be brought in or would this salt water stop any chance of the well being made a producer? We are still drilling and an immediate answer would be appreciated. —L. S. M.

It is a common practice in the Mid-Continent and other fields to continue to drill even after water has been encountered in the upper formations and when a good casing seat is found to run another string of casing and in this way form a water shut-off.

If the work so far done is proving up the structure it would seem that there are no reasons why the hole cannot be carried further and a string of 8¼-inch casing set inside of the 10½-inch string.

The salt water that has been encountered can be shut off by following proper methods and it should be possible to cement behind the 8¼-inch string of casing when a good casing seat has been found and have a dry hole from that point downward to the next saturated sand, whether full of oil or water.

The final oil string will be set just above the oil sand and it should in itself protect the well against water from upper sand bodies if it is properly landed and cemented. The strings of larger pipe can then be pulled if desired.

All of this is common practice. In Walter H. Jeffery's book, "Deep Well Drilling," you will find helpful information on this and other subjects.

SABIN PROTECTIVE COATING

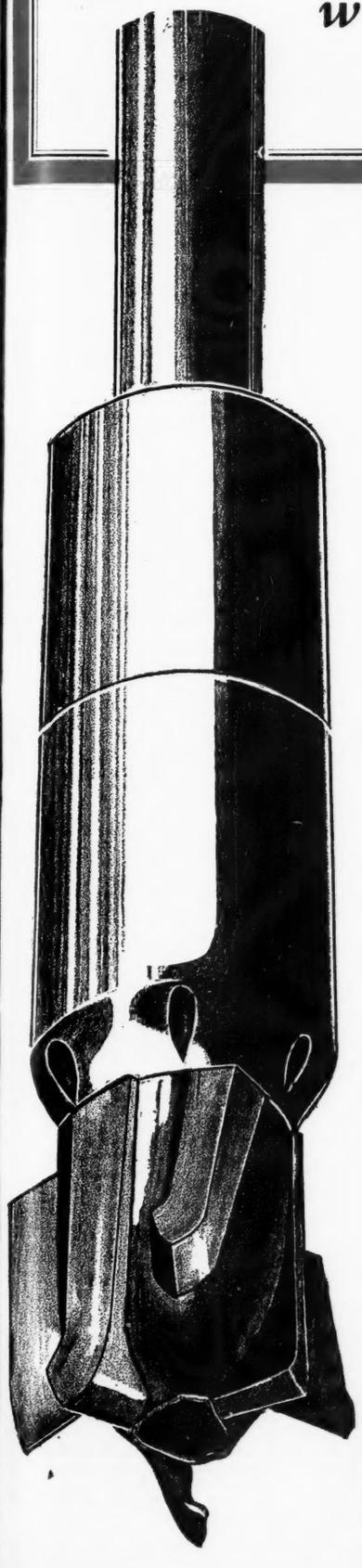
Can you tell me what the "Sabin coating" is? It is some sort of protection apparently for pipe lines and probably other metal subjected to corrosive conditions, but I have not been able to find out just what it is.—L. U. N.

The Sabin coating is a mixture of asphalt and linseed oil described by A. H. Sabin in his book, "Industrial and Artistic Technology of Paint and Varnish." This mixture was to be used as a bath in which to immerse the clean metal at about 300° F. On removing the metal from the bath the surplus coating was allowed to drain off. The coated metal then was put into an oven and baked at the same temperature, that is 300 degrees, until the oil in the mixture was oxidized and coating hardened.

Clean, accurate, unbroken cores

with the PERFECTION Core Barrel

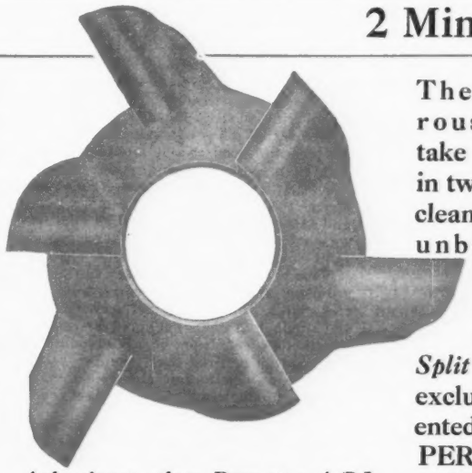
—In use by more than 80% of the major companies in the Mid-Continent Fields



THERE is no chance to miss taking a clean, accurate core when the PERFECTION reaches bottom and rotates . . . *the heat-treated* Chrome Nickel steel cutter-head, faced with a substance of diamond-like hardness, takes care of this in the most stubborn formation. Cutter heads for all formations.

Clean 2 Minutes

Water circulates through the barrel until the bottom is reached, keeping the barrel clean, regardless of bridges. Then, a ball dropped, the drill stem cuts off the water from the barrel. Result: a clean, perfect picture of the formation.



The greenest roustabout can take out the core in two minutes . . . clean, whole and unbroken. Unscrew the cutter head, take out the *Split Liner* — an exclusive and patented feature of the PERFECTION—and the job is done. Clean.

Ask about other Brewster A.P.I. Products: Shouldered Tool Joints; Frictionless Tool Joints; Fish Tail and Special Gumbo Bits; Special Rock Bits; Core Barrel Cutter Heads for both hard and soft formations. (Cutter Heads for hard formations are faced with a substance of diamond-like hardness.) Write for descriptive catalog.

The Brewster COMPANY~INC.

SUCCESSORS TO OIL CITY IRON WORKS INC.

Shreveport, Louisiana

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Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry. Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

OKLAHOMA CITY CRUDE COMPLETE REFINING

Am interested in obtaining as much information as possible relative possible yields from Oklahoma City crude by: a. Topping; b. Topping and cracking; c. Topping and refining for lubs. Would also like information as to physical tests of the crude itself.—R. T. C.

The analysis of a sample of the oil from the Oklahoma City Pool was published on this page March 13, 1930. According to this analysis the oil should yield by topping:

Topping Operation.

Products—	Quality A.P.I. Grav.	Yield per cent
Gasoline	58.8	30.1
Kerosene	41.3	15.0
Gas oil	33.0	35.0
Fuel oil	18.3	19.0

Charging the gas oil and fuel oil to a cracking unit the following yields are reported:

Cracking Reduced Crude

Products—	Quality A.P.I. Grav.	Yield per cent
Gasoline	59.0	55.0
Distillate	38.5	15.0
Coke		18.0
Gas		8.0

Reducing the same oil to lubricating oils, based on runs made in experimental scale apparatus, the following yields were indicated:

Topping and Lubricating Oils

Products—	Quality A.P.I. Grav.	Yield per cent
Gasoline	58.6	29.85
Kerosene	42.5	14.93
Gas oil	35.5	14.93
Cylinder stock	21.5	22.83
Wax dist	30.5	16.41
Processing the wax distillate—		
Nonvis neutral		3.92
200 vis oil	27.8	5.36
Fl 400 Fi 465 Vis at 100: 208 Pour 24 Col 2.5		
Processing the cylinder stock—		
Bright stock	23.3	14.19
Fl 495 Fi 565 Vis at 210: 136 Pour 28 Col 7		
Carbon residue	1.58	
Petrolatum		1.36

All yields are stated in terms of the crude oil charged.

QUALITY OF DOMESTIC FUEL OIL

Our company handles 38-40 straw colored furnace oil and 32-35 gas or distillate oil. We have had considerable complaints of settlement in the oil, especially with the 38-40 grade. Would it be possible to install in connection with our storage tanks some process for filtering this oil as it is loaded into tank wagons? Is there any known substance or treatment which we could use to help reduce the odor of fuel oil?—D. B.

The purchasing agencies make use of specifications for domestic fuel oils that do not permit the product to contain even traces of water and sediment. There is no good reason for impurities of this nature and the presence of either water or solid matter indicates contamination through careless handling. A good furnace oil, such as you have indicated, should show a very low fixed carbon content when subjected to the ordinary proximate analysis; something of the order of 0.005 per cent. That is, the oil should burn away without leaving an appreciable residue. Analyses show over 99.9 per cent volatile matter.

While some sort of a percolating filter or a centrifuge could be set up for the treatment of this oil, it would probably not be practical because of the expense. A charcoal filter might correct the odor and at the same time remove the sediment, but it depends on what is the reason for the odor. If it is hydrogen sulphide some chemical treatment, possibly an alkaline wash, would be necessary. Of course a fuel oil is not valued because of its pleasant odor and it would be difficult to prepare a specification covering odor that would be suitable. The sense of smell is very acute with some persons and so unreliable in others that two persons seldom agree about the character of faint and questionable odors.

The proper place for the matter of sediment and odor to be corrected is at the source, that is, the refinery; and if the product is then delivered in an unsatisfactory condition, it would point to shipment in a dirty car. Competent inspection at destination and rejection of a poor product will soon correct such faulty practice.

REMOVING HYDROGEN SULPHIDE FROM DRY GAS AND BIBLIOGRAPHY ON HYDROGEN SULPHIDE

Can you supply any information on commercial processes that have been used for removing hydrogen sulphide from large volumes of dry gases that are intended for domestic and industrial consumption? Bibliography on the subject of hydrogen sulphide removal from natural gas would be appreciated.—E. A. H.

Where the local conditions are favorable and a large supply of cheap water is available, natural gas may be washed with water. Large quantities of hydrogen sulphide may be removed from gas by simply washing with water because this gas is soluble to the extent of 3.2 volumes in water at 60° F.

The chemicals that may be used include caustic soda solutions, iron oxide and hydrate, sodium carbonate, hydrated lime and milk of lime. The economical use of any and all of these will depend upon the location of the supply, or where the gas is to be treated, because of transportation expense, and the quantity of hydrogen sulphide that will have to be removed.

The articles mentioned in the following list give information about the properties of hydrogen sulphide and the several methods that are used for its removal from natural gas.

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Hayslip, V. H. Hydrogen sulphide gas peril in Panhandle-Permian Basin. The Oil and Gas Journal. Feb. 21. 1929, p. 152.

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Jacobson, D. L. Hydrogen sulphide only need be removed from gas. The Oil and Gas Journal. April 4, 1929, p. 116.

Jacobson, D. L. New processes aid in manufacture of clean gas. Chem. and Met. Eng., Oct., 1929, p. 588.

Klaiber, W. J. The Koppers Process described. The Oil and Gas Journal. Dec. 2, 1926, p. 186.

Lauriston, Victor. Purification process applied successfully to natural gas. The Oil and Gas Journal. V. 23, Dec. 25, 1924, p. 66.

Leahy, M. J. Rapid method of testing high sulphur gases in the field. Ref. and Nat. Gas. Mfr. Oct., 1929, p. 79.

Logan, Jack. Cleaning plant makes obnoxious gas usable. Oil Weekly, July 27, 1928, p. 148.

Logan, Lloyd and Desy, G. G. The removal of hydrogen sulphide from natural gas. Natural Gas V. 5, No. 2, Feb., 1924, p. 12.

Natural Gas. Gulf Production Co. to treat sulphur gas. April, 1927, p. 9.

The Oil and Gas Journal. Meeting sulphur, oil and gas problems. Nov. 10, 1927, p. 29.

Refiner and Natural Gasoline Manufacturer. Effective gas cleaning methods used by Gilmore-Dabney Oil Co. May, 1929, p. 90.

Wagner, Paul. Hydrogen sulphide field problems still unsolved in West Texas region. Nat. Pet. News, April 18, 1928, p. 68.

Yant, W. P. and Fowler, H. C. Hydrogen sulphide poisoning in the Texas Panhandle, Big Lake, Tex., and McCamey, Tex. oil fields. U. S. B. M. Report of Investigations, Serial 2776, 2847.

This bibliography was prepared by Miss Lundell, Technical Librarian, Tulsa Public Library, Tulsa, Okla.

AVERAGE COST OF REFINING CRUDE OIL

Will you kindly give me some information on the average cost of refining crude oil, with the latest prices, per barrel?—O. D. L.

Any effort to estimate the average cost for refining means that many factors must be considered because of location, source and quality of the crude oil, delivery expense, size and type of the refinery. These factors are frequently made the basis for the refining cost but they are in fact but a small part of the manufacturing cost.

W. T. Ziegenhain, The Oil and Gas Journal, December 1, 1927, Page 151, made an estimate in which 87 cents per barrel was determined to represent the average cost for refining a barrel of crude oil in the United States at that time. Of this amount 28 cents was manufacturing expense, 15 cents for crude delivery, 11 cents the sales cost, and 33 cents for obsolescence, depreciation, taxes, insurance, interest and overhead. The average plant had a daily capacity of 8,000 bbls.

A recent analysis has been made by Mr. Ziegenhain, The Oil and Gas Journal, January 16, 1930, Page 37, in which a total skimming cost of 50 cents per barrel was estimated. Skimming and cracking for the average plant was estimated to cost 77 cents per barrel. If lubricants were made in addition to skimming and cracking, the cost was stated to be $1.50 per barrel.

The three types of refineries used in these estimates were 5,000 bbls. daily capacity and processing 39 gravity Seminole crude. The yields and expense for each kind of refinery are tabulated.

SKIMMING
Yield

Product—	Per cent	Price per gal.
Gasoline	39.0 (Motor)	$0.0650
Kerosene	5.0 (41-42 A. P. I.)	0.0425
Distillate	3.0 (170° flash)	0.0375
Gas oil	20.0 (32-33 A. P. I.)	0.03
Fuel oil	30.0 (18 A. P. I.)	*0.75

*Per barrel.

Charges

Item—	Expense per bbl.
Crude oil	$1.69
Pipe line delivery	.15
Manufacturing and maintenance	.11
Sales, traffic, overhead	.10
Interest, taxes, depreciation, insurance	.14
Total	$2.19

SKIMMING AND CRACKING
Yield

Product—	Per cent	Price per gal.
Gasoline	72.0 (Motor)	$0.065
Kerosene	5.0 (41-42 A. P. I.)	0.0425
Distillate	8.0 (170° flash)	0.0375
Coke	6.0	*2.00
Loss and gas.	9.0	

*Per ton.

Charges

Item—	Expense per bbl.
Crude oil	$1.69
Pipe line delivery	.15
Manufacturing and maintenance	.31
Sales, etc.	.10
Interest, taxes, etc.	.21
Total	$2.37

Note—Total investment, including cars, is $2,250,000. Expense items are: Sales, $0.036; traffic, $0.010; overhead, $0.055; interest, 5 per cent; taxes, 1 per cent; depreciation and obsolescence for cracking plant, 20 per cent; balance of plant, 8 per cent; insurance, 1 per cent.

COMPLETE REFINING
Yield

Product—	Per cent	Price per gal.
Gasoline	60.0 (Motor)	$0.065
Kerosene	5.0 41-42)	0.0425
Distillate	6.0 (170°)	0.0375
Lub stock	1.5 (280 vis. at 100°)	0.1675
Bright stock	7.0 (150 vis. at 210°)	0.37
Fuel oil	10.0 (60% sludge)	*0.60
Coke	4.0	†2.00

*Barrel. †Ton.

Charges

Item—	Expense per bbl.
Crude oil	$1.69
Pipe line delivery	.15
Manufacturing and maintenance	.30
Sales, etc.	.10
Interest, etc.	.27
Total	$3.19

Note—Total investment including cars is $2,950,000. Expense items are the same as under skimming and cracking, with added monthly charge of $99,200 for making lubricating oils.

GREASES AND COMPOUNDED OILS ANALYSIS

Please advise me where I can secure reliable information about the analysis of lead soap gear oils and lead soap greases? Do not hesitate to mention references as I have access to a very fair reference library.—W. S. P.

There are not many books that are especially limited in scope to gear oils and greases. The standard books on industrial chemistry, engineering chemistry and analytical chemistry should be consulted for analytical principles.

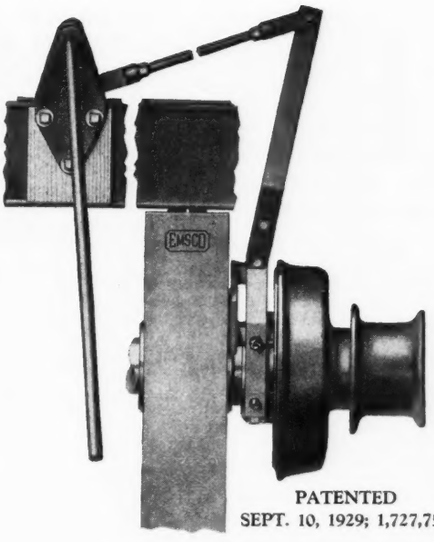
Reliable methods are to be found in:

Hydrocarbon Oils and Saponifiable Fats and Waxes, by Holde-Mueller.

Lubricating Greases, by Klemgard.

Fats and Waxes, by Hilditch.

Oils, Fats and Waxes, by A. Wright and C. A. Mitchell.



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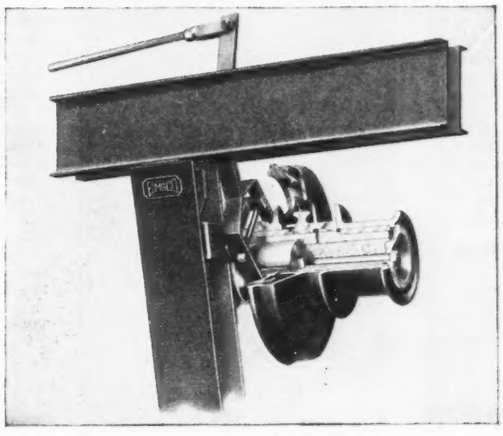

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The cone clutch is exceptionally large and will break any joint without undue exertion on the operating lever. The cone type of clutch may be released at any time - a marked improvement over the average automatic cathead with its fixed distance of tong-rope travel.

The entire unit is mounted on a quill. permitting easy installation. The operating lever is placed convenient to the driller. The cathead is provided with a large oil chamber, packed with waste. Centrifugal force carries the oil through the oil hole in the quill to the bronze bushings. This cathead can be supplied to fit all types and makes of draw works.

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Natural Gas Developments

WEST VIRGINIA GAS MERGER CONSUMMATED

The combination of 10 important natural gas properties in Floyd County, Kentucky, and Lincoln, Putnam, Kanawha, Cabell, Logan and Roane counties in West Virginia is made known in the announcement of the incorporation of Twin States Natural Gas Co. under the laws of Delaware.

The new company will acquire and operate properties totaling more than 7,000 acres with an estimated gas reserve in excess of 55,000,000,000 feet, and having a present daily production in excess of 9,000,000 fet. All of the gas from the properties which the new company is acquiring is now being sold under contract to several of the largest purchasers of natural gas in this territory, including: Kentucky West Virginia Gas Co., subsidiary of Standard Gas and Electric Co.; South Penn Oil Co., subsidiary of Union Carbide and Carbon Corp.; Warfield Natural Gas Co., Central Kentucky Natural Gas Co., and United Fuel Gas Co., subsidiaries of Columbia Gas and Electric Corp., and Godfrey L. Cabot, Inc.

HOUSTON-DIXIE ELECTIONS

HOUSTON, Tex., Mar. 29.—Officers and directors of the Houston Gulf Gas Co. and the Dixie Gulf Gas Co., subsidiaries of the United Gas Co., Houston, Tex., were re-elected at meetings of stockholders of these companies. Directors of the former are O. R. Seagraves, W. L. Moody, III, J. A. Elkins, E. G. Diefendach, Edward F. Hayes, Warren J. Dale and Herman F. Clark. Directors of the Dixie Gulf Gas Co. are Mr. Seagraves, Mr. Moody, Mr. Elkins, Mr. Dale, N. W. Hunter, W. T. Perkins, John C. Maxwell, Frank F. Walker and M. A. Hardie.

A.G.A. DISTRIBUTION COMMITTEE

The spring conference of the distribution committee of the technical section, American Gas Association, will take place at the Statler Hotel, St. Louis, Mo., April 9, 10 and 11. Gas engineers from all sections of the country are expected to be attracted to St. Louis for this gathering. Reports and papers will be presented by many men prominent in the gas industry, according to the tentative program which has been prepared under the direction of J. H. Braine, assistant engineer of the distribution department, the Brooklyn Union Gas Co., Brooklyn, N. Y.

MONTANA GAS FRANCHISES

CASPER, Wyo., Mar. 29.—Livingston, Mont., is to decide on giving a franchise to some company for furnishing natural gas to the city next month. Several of the larger companies interested in the gas service in Montana have applied for franchises and the city council decided to hear all applications at the first meeting in April.

The gas service from the Bowdoin Dome to several towns in Phillips and Valley Counties, northern Montana, concerned in the recent merger is now functioning under the direction of the Bowdoin Utilities Co. and the towns of Saco, Glasgow, Malta and Hinsdale are being supplied with natural gas by this firm. The merger has done away with a competitive condition between two firms.

In the Dry Creek Field the Ohio Oil Co.'s well has a commercial flow of gas and is drilling slowly into the sand. The well is estimated good for 10,000,000 feet, but a light spray of oil is also showing occasionally with the gas and the operators intend to drill the well down to see what the lower part of the sand may contain.

NEW VICE PRESIDENTS HOUSTON NATURAL GAS

HOUSTON, Tex., Mar. 29. — W. B. Trammell and Col. George D. Sears were elected additional vice presidents of the Houston Natural Gas Co. at the annual

W. B. Trammell

meeting of directors. Both have been active in the company's management, the latter being attorney and the former general manager for the past year. Mr. Trammell has been with the company

George D. Sears

since its organization in 1925. Two years ago he was made superintendent and then was promoted to general manager.

The following officers were elected by the Houston Natural Gas Co.: E. H. Buckner, president; T. M. Kennerly, vice president and general counsel; A. H. Kennerly, secretary-treasurer; R. W. Fairbrother, assistant secretary; McDonald Meachum, associate counsel. Directors include Mr. Buckner, W. Thacker Blaine, W. B. Trammell, T. M. Kennerly and D. P. Perkins.

Officers also were elected by the Gulf Cities Natural Gas Co., an affiliated company, which is distributing natural gas to Goose Creek, Texas City, Freeport and other territory along the coast outside of Houston, which is served by the Houston Natural. These officers are: David Hannah, president; Frank C. Smith, vice president; A. H. Kennerly, secretary-treasurer; David Hannah, Frank C. Smith and John S. McCampbell, directors.

NATURAL GAS MERGER PLANS ARE ANNOUNCED

NEW YORK, Mar. 31.—Official announcement of plans for the creation of a new natural gas company which will merge holdings of United Gas Co., Electric Power & Light and Magnolia Gas Co. has been made here. Subject to the approval of the board of directors of United Gas and Louisiana Gas & Fuel, natural gas subsidiary of Electric Power & Light, a new holding company will be formed which will be a subsidiary of Electric Power & Light, which company is in turn supervised by Electric Bond & Share.

The holders of common stock of United Gas Co. will receive for each share of common stock one and one-half shares of common and one-half option warrant of the new company. A full option warrant entitles the holder, without limit as to time, to purchase a share of common stock of the new company for $33⅓.

The plan contemplates that debentures and second preferred stock of Louisiana Gas & Fuel Co. owned by Electric Power & Light Corp. and $30,000,000 cash will be turned in for $7 second preferred stock, common stock and option warrants of the new company; and that an additional issue of $20,000,000 of these junior securities will be underwritten to be paid as and when called by the new company.

It is estimated that the new company will sell 190,000,000,000 feet of natural gas during the first year. This gas will be sold directly or indirectly largely for industrial consumption in a territory extending from St. Louis to Mexico, including among other cities, St. Louis, Atlanta, Birmingham, Memphis, New Orleans, Monroe, Dallas, Fort Worth, Beaumont, Port Arthur, Orange, Houston, San Antonio, Austin, Laredo and Monterey. In some of these cities the company will supply all, and in the others a substantial portion of the natural gas requirements. The company will also own interests in natural gas operations outside of this territory.

Operating gross revenues of these companies arising entirely from the sale of natural gas for the year 1929 was approximately $22,000,000. It is estimated that the operating gross revenue of the subsidiaries of the new company for the first year will be in excess of $26,000,000. These figures are exclusive of substantial gross revenue arising from oil, sulphur and gasoline operations.

BUYS KENTUCKY PROPERTY

The Hamilton Gas Co. has purchased in fee the gas and oil rights on the property of Senator W. E. Chilton in Knott, Perry and Breathitt Counties, Kentucky, consisting of 15,000 acres.

MOORE COUNTY LEASES

AMARILLO, Tex., Mar. 29.—Leases in 45 sections on the R. S. Coon ranch in the central part of Moore County have been sold by Magnolia company to Missouri-Kansas Pipe Line Co.

The land consists of 32 sections in Block 44, H.T.&C. Survey, and 13 sections in Block 6, T.T.N.O. Survey. The area is in gas territory.

COLUMBIAN CARBON CO. REPORT ON OPERATIONS

The report of President F. F. Curtze of the Columbian Carbon Co. for the year ended December 31, 1929, shows production of 104,855,183 pounds of carbon black; 17,487,437 pounds of lamp black and other products; 26,179,539 gallons of gasoline, and 47,831,160,000 feet of natural gas. Natural gas sales aggregated 26,934,903,000 feet, with a gross revenue of $2,545,999.

In West Virginia it had 139 producing wells and 3 wells drilling; in Louisiana 205 producing wells and 9 wells drilling; in Kentucky 77 producing wells and 1 well drilling; in Texas 4 wells drilling; a total of 425 producing wells and 13 wells drilling December 31, 1929.

ACREAGE DECEMBER 31, 1929

State—	Owned	Leased	Total
West Virginia	561	16,206	16,767
Louisiana	35,376	35,997	71,373
Kentucky	....	62,223	62,223
Texas	459	16,999	17,458
Oklahoma	58	4,416	4,474
Wyoming	390	....	390
New Mexico	....	1,640	1,640
	36,835	137,481	174,316

In addition, the company has undivided interests aggregating 47,960 acres in oil and gas leases in Kansas, Arkansas and New Mexico, and a controlling interest in Federal Fuel Corp. which owns unproven leases aggregating 162,000 acres in West Virginia.

The company and its subsidiaries expended upwards of $6,000,000 in acquisition and development of gas lands, construction of plants, pipe lines and equipment and purchase of stocks and bonds of other companies engaged in the natural gas business.

As of January 1, 1929, the company acquired all the outstanding capital stock of Magnetic Pigment Co. in exchange for 15,000 shares of its own stock. Magnetic Pigment Co. was organized in 1911 and has a prosperous and growing business in the manufacture of iron oxide pigments under patented processes. Its factory is in Trenton, N. J.

The casinghead gasoline plants of Coltexo Corp. in Gray County, Texas, were enlarged to a daily capacity of 100,000 gallons. Another casinghead plant is now under construction in this area. A natural gasoline plant of 16,000 gallons daily capacity was erected at Alto, La., to treat gas produced in the Richland Field. Total gasoline production is now running at the rate of 40,000,000 gallons per annum.

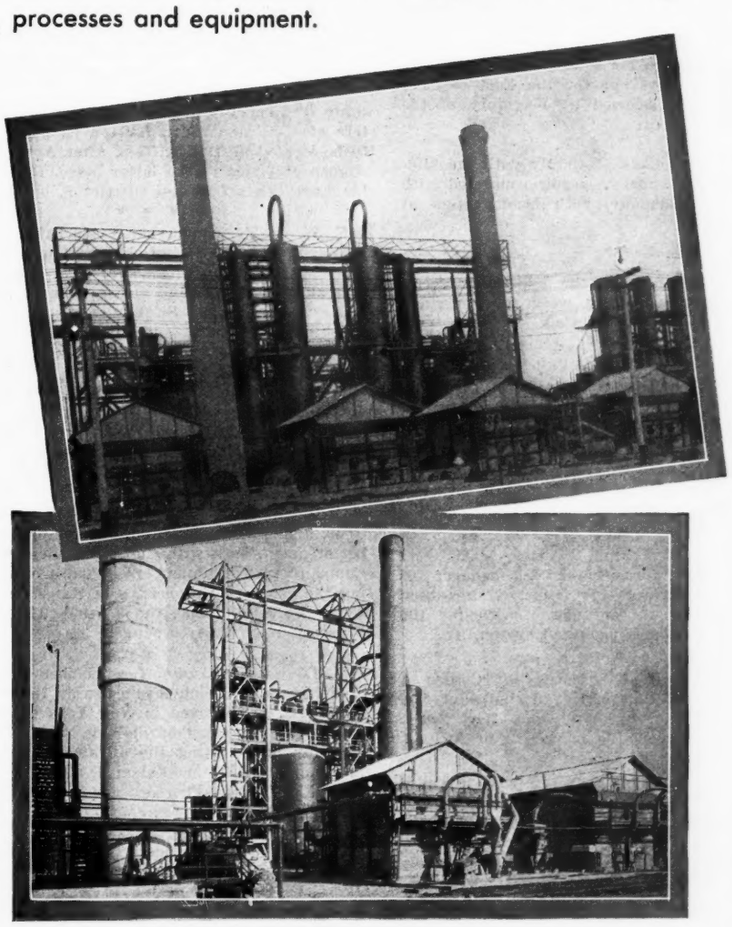
The natural gas pipe line of Mississippi River Fuel Corp. from the Louisiana fields to St. Louis was completed near the end of the year. Columbian Carbon Co. owns 111,492 shares, being 17 per cent of the outstanding capital stock of this enterprise. The company further increased its pipe line investments by acquisition of 41,807 additional shares of Interstate Natural Gas Co., making its total holdings 166,807 shares, or approximately 17 per cent of the outstanding stock of the latter corporation. Participation in another natural gas project of major proportions has been for some time in negotiation.

The company closed contracts to furnish 21 per cent of the natural gas requirements of the Mississippi River Fuel Corp., 22 per cent of the requirements of the Birmingham-Atlanta line of the Southern Natural Gas Corp.; 13 per cent of the requirements of the line of Arkansas Louisiana Pipe Line Co.; 23 per cent of the requirements of Memphis Natural Gas Co., and 15 per cent of the requirements of Dixie Gulf Gas Co. in the Monroe and Richland Fields. Only a negligible volume of gas was delivered under these contracts in 1929.

DISTILLATION

Vacuum distillation has been applied by us not only to reduced crudes, but to other products where low temperatures and pressures are advantageous.

We have pending various patent applications covering processes and equipment.



The following Companies are some of those who have purchased BADGER Equipment:

The Texas Company
Tide Water Oil Co.
Sinclair Refining Co.
Anglo-Persian Oil Co. Ltd.
Emlenton Refining Co.
Shell Petroleum Corp.
Phillips Petroleum Co.
Standard Oil Co. of N. J.
Empire Oil & Refining Co.
Texas Pacific Coal & Oil Co.
Associated Oil Co.
Pennzoil Company
Independent Refining Co.
Gulf Refining Co.
Tidal Refining Co.
Continental Oil Co.
Anglo-Mexican Petroleum Co. Ltd.
Cities Service Refining Co.
Barnsdall Corporation
Beacon Oil Company
Pierce Petroleum Corp.
Magnolia Petroleum Co. of Texas
New Orleans Refining Co.
Skelly Oil Co.
General Petroleum Corp.
Shell Oil Company
Freedom Oil Works Co.
Vacuum Oil Company
Richfield Oil Co.
Humble Oil & Refining Co.

SONS COMPANY

TULSA HOUSTON BOSTON

MEN KNOWN IN OILDOM

Charles Jacobsen

Credit for many of the new oil field practices worked out in the Seminole area is accorded Charles Jacobsen, superintendent of production in the Barnsdall Oil Company's central division, and his associates. Barnsdall was among the pioneers in developing the Seminole Field, and its operations, which involved various changes in equipment and methods, were under Mr. Jacobsen's supervision.

Mr. Jacobsen, born on a farm in Radcliff, Iowa, in 1886, was taken at the age of 6 to a farm in southwestern Minnesota, where he grew to manhood. At the age of 25 he left the farm and went to Bartlesville, Okla., where he got work with the Barnsdall company on a pipe line job. After 18 months with pick and shovel he went on cleaning-out tools, which, with work on drilling tools, he followed for a year. Six months as a gang pusher followed and then he was promoted to farm boss on a Barnsdall lease near Osage, Okla. He was advanced to assistant district superintendent of the Tulsa district 18 months later and after a year was made district superintendent at Bigheart (now Barnsdall), Okla. In its expansion program of 1924-1925 Barnsdall purchased the properties and production of the Waite Phillips Company, merging the operating units. Immediately following this, in 1925, the discovery well in the Seminole Field was brought in and Barnsdall began developing its acreage there. The company's production was separated into three units with Mr. Jacobsen in charge of the central division.

The Barnsdall company was active in the group of producers who developed the gas-lift in the Seminole district, and the break-out method of circulating oil and gas to keep off high pressure in wells produced by gas lift was pioneered by Mr. Jacobsen and his associates. Mr. Jacobsen is active in the work of the American Petroleum Institute, especially in its standardization program. He loves outdoor sports, particularly trap-shooting.

PERSONAL PARAGRAPHS

H. Hemmings has returned to England from Tampico, Mexico.

* * *

Allen W. Tellotson, of Parco, Wyo., has moved to San Antonio, Tex.

* * *

Henry Dundas has been elected a director of the Standard Oil Company of New York.

* * *

Martin Vancouvering, prominent petroleum engineer of Los Angeles, Calif., is celebrating the arrival of a baby girl.

Bond Coleman has returned from Maragua, Nicaragua, to Mound City, Kans.

* * *

R. W. McIlvain, vice president of the Pure Oil Company, Chicago, Ill., has returned home from a business trip to Fort Worth, Tex.

* * *

H. J. Morlang, vice president of the Oil Well Supply Company, has returned from a week's visit at the company's factory in Oil City, Pa.

* * *

A. C. Marshall has been appointed assistant treasurer of the Union Oil Company of California by R. J. Keown, vice president and treasurer.

* * *

Underwood Nazro, vice president of the Gulf Production Company, Houston, Tex., made a business trip to the company's offices at Fort Worth, Tex.

* * *

George Jo Milburn, consulting geologist of Los Angeles, Calif., is in the Houston, Tex., district supervising geological investigation for California interests.

* * *

At a directors' meeting of the Missouri-Kansas Pipe Line Company, Walter N. Scholp was elected secretary, succeeding W. T. Stevenson who remains treasurer.

* * *

Paul Grimm, umpire for a number of California fields, left a few days ago for the East to meet with the committee selected by Secretary of the Interior Wilbur.

* * *

V. W. Watson, geologist, formerly with the Midwest Exploration Company, is now connected with the Delmar Oil Company, with headquarters at Roswell, N. Mex.

* * *

William Dana Miller, of New York, recently elected a vice president of the Esperanza Petroleum Corporation, sailed last week for Venezuela for a three months' business visit.

* * *

James A. Talbot and C. M. Fuller, chairman of the board and president respectively, of the Richfield Oil Company of California, were re-elected at the annual meeting of the company.

* * *

W. T. Knight, president of the Consolidated Oil Company, Wichita Falls, Tex., has been seriously ill at the Wichita Falls Clinic Hospital for the past 10 days, but is reported as improving.

* * *

Curtis H. Fisher, formerly district manager for the Gulf Cities Natural Gas Company, has been appointed manager of consumer service for the Houston Natural Gas Company, Houston, Tex.

* * *

Harry Bayard, who has been with Cosden & Company, at the Chicago office, in charge of fuel oil sales in car lots, resigned to take effect March 31. He plans to resume the marketing of fuel oil.

* * *

Huntington Beach, Calif., operators have called upon A. L. Young, waste water engineer of the Union Oil Company for a cost survey of the proposed waste water disposal plant which is planned to serve the entire Huntington Beach oil field.

* * *

A. G. Clarke, of Calgary, Alberta, who has been associated with Alberta Pacific Consolidated Oils, Ltd., since its organization, has retired from the positions of managing director and secretary-treasurer. His successor will be named at the company's annual meeting.

* * *

W. B. Pyron, vice president and general manager of the Western Gulf Oil Company, Pacific Coast subsidiary of the Gulf Oil Corporation, spent a few days on a business trip to Fort Worth and Dallas, Tex. Mr. Pyron formerly lived in Fort Worth, but is now located at Los Angeles, Calif.

* * *

J. A. Reed, general superintendent of distribution for the Equitable Gas Company, of Pittsburgh, Pa., has retired after 25 years of service with that company. T. H. Kendall, who was assistant to Mr. Reed, has taken over the position vacated by Mr. Reed. Mr. Kendall entered the service of the Equitable Gas Company in 1924.

Stanley C. Herold, recently elected umpire to supervise the distribution of disbursements at Kettleman Hills, California, has been engaged as a special representative by the Union Oil Company.

* * *

John Eoghan Kelly, consulting engineer of New York, has been elected vice president and director of the Twin States Natural Gas Company formed by a merger of 10 natural gas companies in Kentucky and West Virginia.

* * *

W. M. Lassen, vice president of the Aladdin Petroleum Corporation, has returned to Wichita, Kans., after spending most of the past two or three years in California. Mr. Lassen plans to maintain a permanent residence in Wichita.

* * *

E. P. Philbrick, of Tulsa, has been transferred to the Wichita, Kans., office of the Magnolia Petroleum Company, as head of the geological department. It is the only geological office maintained by the Magnolia Petroleum Company outside of its Dallas, Tex., office.

* * *

Robert E. Spratt has been appointed assistant petroleum technologist with the United States Geological Survey and assigned to duty at the offices of the survey in the Middle West. He was formerly employed by the Midwest Refining Company in the Salt Creek oil field.

* * *

H. Pierson, deputy oil and gas supervisor for the State Railroad Commission, who has had headquarters at Corsicana, Tex., for the past six years, is to be located at Dallas, Tex., after April 1, due to change of office to the latter place. He will cover his East Central Texas, District 5, out of Dallas.

* * *

F. W. L. Tydeman, vice president of the Shell Petroleum Corporation in charge of manufacturing, spent several days in Houston, Tex., inspecting the company's new refinery at Deer Park. Mr. Tydeman, whose home is St. Louis, Mo., has been the guest of R. B. High, superintendent of the plant.

* * *

John R. Suman, director of the Humble Oil & Refining Company, Houston, Tex., accompanied by Mrs. Suman, is making a 10-day trip in Cuba. Mr. and Mrs. Suman sailed from New Orleans, La., following atendance at the annual convention of the American Association of Petroleum Geologists.

* * *

C. P. Dimit, vice president in charge of operations, and H. L. McQuiston, general production superintendent, both with the Independent Oil & Gas Company with headquarters in Tulsa, were inspecting the company's properties in Kansas during the week. Mr. McQuiston was a resident of Wichita, Kansas., until two years ago.

* * *

M. Constantin Chadinoff, a member of the board of directors of Societe Francaise de Recherches au Venezuela, has arrived in New York after making a tour of inspection of drilling operations of his company and visiting the oil fields in Venezuela in company with M. Vahon Djalaloff, consulting engineer of the Recherches company. M. Djalaloff remained in Venezuela.

* * *

C. O. Garbrecht, formerly superintendent of the Kettle Creek Refining Company, at El Dorado, Ark., has been transferred to Ardmore, Okla., as superintendent of the Imperial Refining Company's refinery. The Imperial and Kettle Creek are affiliated companies. Mr. Garbrecht has been succeeded at the Kettle Creek refinery by Gustav Staub, formerly with the Marland Refining Company and the White Oak Refining Company.

* * *

Price Campbell has been elected as president of the West Texas Utilities Company, in succession to the late George W. Fry. Mr. Campbell has been with the Insulls for 15 years, the last several years as executive vice president and first assistant to Mr. Fry. He is a native of Weatherford, Tex., and received his education in the high school at that place, and the Texas A. and M. College. Earl Hoppe, was promoted to the vice presidency held by Mr. Campbell. He is general superintendent. Other officers of the company were re-elected by the board. They are Dan A. Gallagher, secretary-treasurer; B. M. Wolfe, auditor and C. C. Sellers, assistant treasurer.

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Dove-tail Hinged Slips prevent fouling when pulling the packer. Tapered Hooks assure positive hooking of the cage when resetting the packer. Sectional Rubber Rings expand over the full length with less weight, assuring complete shut-off when set. These are some of the patented features of "Oilwell" packers that make them "Packers that Pack"... Available in all styles and sizes.

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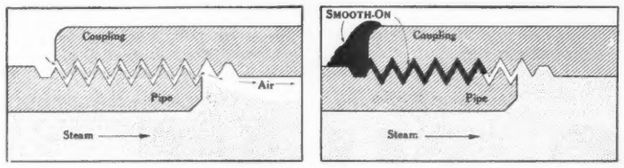

What happens at a leaky vacuum joint before and after applying

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AIR leaking into any joint under vacuum is a serious matter.

In a condenser line, entering air cuts down the capacity of the turbine or engine, and increases both steam and fuel consumption required to deliver a given amount of power.

In an exhaust steam heating system, air entering the radiator keeps it partially or completely cold at the point of the leakage, and air that gets into the return lines, overloads the pipes and decreases their useful cross sectional areas. In the latter instance, the resulting weakened vacuum is not able to dislodge the residual air in the coils or radiators, and efficient heating effect cannot be obtained.

Only if the leaks are sealed completely *and kept so* can the value of the steam be utilized to the greatest possible extent. Vacuum leaks present no visible indication of their presence, so finding the guilty joint or joints is like going after the proverbial needle in the hay stack.

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4-3-30

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 52)

ELLIS COUNTY

Central Commercial Oil Co.'s No. 1 Helms, SE cor. NE Sec. 2-12-20w ..... Spudding.
Streeter & Stearns' No. 1 Leiker, SW NE Sec. 26-13-20w. Shut down 1,290 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w .... Shut down 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w ..... Fishing 2,765 ft.

ELLSWORTH COUNTY

Tatlock et al's No. 1 Sackem, C SW SE Sec. 25-17-9w .. Shut down 3,288 ft.

FORD COUNTY

McNabb et al's No. 1 Fowler, C SE Sec. 26-27-22w .... Shut down 400 ft.
Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w .. Drlg. 1,475 ft.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w. Shut down 4,340 ft.
Naylor et al's No. 1 St. John, NW SE SE Sec. 27-8-25w.. Rig.

GREENWOOD COUNTY

John Harwood's No. 1 Gool, C SW NW NE Sec. 36-25-9 ..... Spudding.
Mallory's No. 1 Denchfield, SE NW Sec. 12-27-9 ..... Drlg. 660 ft.
Bundy, Smith & O'Neil's No. 1 Ford, NE NW Sec. 28-25-13 ..... Shut down 50 ft.
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12.. Drlg. 1,200 ft.

HARPER COUNTY

Beeler et al's No. 1 Bear, C NE Sec. 21-31-6w ..... Shut down 1,830 ft.

HARVEY COUNTY

Liggett et al's No. 1 Regier, C SE NW SE Sec. 2-23-3w.. Abandoned 3,830-51 ft.; water; T. D. 3,855 ft.
Mrs. Gay et al's No. 1 Grove, C NW NE NW Sec. 29-23-1w ..... Shut down 3,360 ft.

HODGEMAN COUNTY

Phillips Pet.'s No. 1 Hausman, NW NE Sec. 30-22-22w .. Shut down 5,034 ft.

JOHNSON COUNTY

Forrester et al's No. 1 Yazel, CEL SE SE Sec. 18-12-22.. 6-in. csg. 1,215 ft.

LINN COUNTY

Ferguson & Hiatt's No. 1 Carple, NE SE SW Sec. 22-21-22 ..... Rig.

LYONS COUNTY

Aladdin & Phillips' No. 1 Ratcliff, SW cor. Sec. 29-20-10. Rig on ground.
Sheedy et al's No. 1 Evers, C NE SE NE Sec. 4-21-10 .. Drlg. 2,340 ft.

MARION COUNTY

Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5 .... Rig.

MARSHALL COUNTY

Swicker & Sincox's No. 1 Remple, C N half NW Sec. 22-4-9 ..... Drlg. 1,060 ft.
Brazier et al's No. 1 Runkel, SE NW Sec. 13-2-6 ..... Rig.

McPHERSON COUNTY

Harry Skelly et al's No. 1 Neufeldt, SE NE Sec. 19-21-3w ..... Rig.
Galt-Brown et al's No. 1 Zeillow, C NE SE SE Sec. 7-17-1w ..... Drlg. 2,525 ft.
Dixie Oil Co.'s No. 1 Johnson, SW cor. Sec. 20-17-3w .. Drlg. 3,554 ft.
McCulloch Oil Co.'s No. 1 Cornelius, SW cor. Sec. 7-21-4.. Water 4,002-05 ft.; abandoned.
Kansas Oil Co.'s No. 1 Otto, SW NW Sec. 21-20-1w .... Shut down 3,644 ft.
Mlimac's No. 1 Decker, NW cor. Sec. 11-20-3w ..... Drlg. 1,560 ft.

MORTON COUNTY

Mangle et al's No. 1 Youngren, C SE NW Sec. 24-32-42.. Spudded; shut down.

MORRIS COUNTY

Urschell et al's No. 1 Scott, NE NW Sec. 6-16-6 ..... Drlg. 2,115 ft.

NESS COUNTY

Clark's No. 1 Vaughn, SE SW Sec. 28-17-22w ..... Shut down 50 ft.

NORTON COUNTY

Richards et al's No. 1 Colby, Sec. 17-4-21w ..... Rig.

PAWNEE COUNTY

Prairie O. & G. Co.'s No. 1 Black, SW NE NE Sec. 11-20-18w ..... Drlg. 3,965 ft.

PRATT COUNTY

O'Haver & Jones' No. 1 Garacke, C NE SW Sec. 7-26-14w ..... Shut down 4,295 ft.
Wilcox O. & G. Co.'s No. 1 Bappin, SW NW Sec. 7-26-15w ..... Fishing 2,785 ft.

RENO COUNTY

C. A. Cheney and M. M. Valerius' No. 1 Stevens, C NE SE NE Sec. 6-26-7w ..... Drlg. 1,160 ft.
Wilcox O. & G. Co.'s No. 1 McPheeters, SW NW Sec. 22-26-8w ..... Shut down 4,076 ft.; water.
Witt's No. 1 Olsen, C SE NW Sec. 14-22-6w ..... Drlg. 3,745 ft.
Skelly Oil Co.'s No. 1 Birkett, NE NW Sec. 30-24-7w .. Wilcox sand 4,172-96 ft.; water; shut down; total depth 4,247 ft; plugging back to 2,191 ft.

RICE COUNTY

Tatlock et al's No. 1 Ploog, C SW SE Sec. 33-18-9w .... Rig.
Burgher's No. 1 Fair, C SE NE NE Sec. 14-21-10w .... Drlg. 3,230 ft.
Derby Oil Co.'s No. 1 Johnson, C NW NE SE Sec. 24-20-6w ..... Shut down 3,652-58 ft.; water.
Danciger et al's No. 1 Bell, C SW Sec. 16-19-8w ..... Drlg. 3,492 ft.
McCulloch et al's No. 1 Williams, C NE Sec. 35-20-8w .. Shut down 1,438 ft.

RILEY COUNTY

Grey et al's No. 1 Smith, NE SE Sec. 30-6-6 ..... Shut down 1,970 ft.
Derby & Shaw's No. 1 Lindstrom, NE cor. Sec. 32-7-5e.. Shut down 2,245 ft.

ROOKS COUNTY

A. H. Kruger's No. 1 Steis, NW SE SW Sec. 12-9-16w .. Shut down 570 ft.

RUSH COUNTY

Danciger Oil & Refining Co.'s No. 1 Nave, NW cor. Sec. 26-17-17w ..... Total depth 3,606 ft.; shut down.
Mlimac's No. 1 Mohr, C NW Sec. 11-18-16w ..... Comp. 3,507-08 ft.; 24,000,000 ft. gas.

RUSSELL COUNTY

Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w .. Drlg. 1,010 ft.

SEDGWICK COUNTY

T. C. Johnson's No. 1 Petrie, SW SE Sec. 35-26-1w .... Rig.
Tavender et al's No. 1 McLean, SE SW SE Sec. 23-26-1w ..... Drlg. 975 ft.
McCulloch Oil Co.'s No. 1 Buckles, NW cor. SE Sec. 3-28-1w ..... Shut down 1,115 ft.

SHAWNEE COUNTY

Forrester et al's No. 1 Humer, NE cor. Sec. 14-11-16 .... Drlg. 2,200 ft.
Jenkins & Scott's No. 1 Sherman, NW NE Sec. 28-10-15 ..... Shut down 985 ft.
Jenkins & Scott's No. 1 Haden, NE SE Sec. 8-12-14 .... Drlg. 1,040 ft.

SHERIDAN COUNTY

Mandalin O. & G. Co.'s No. 1 Unknown, C SE SW SW Sec. 27-7-26w ..... Spudded; shut down.

STAFFORD COUNTY

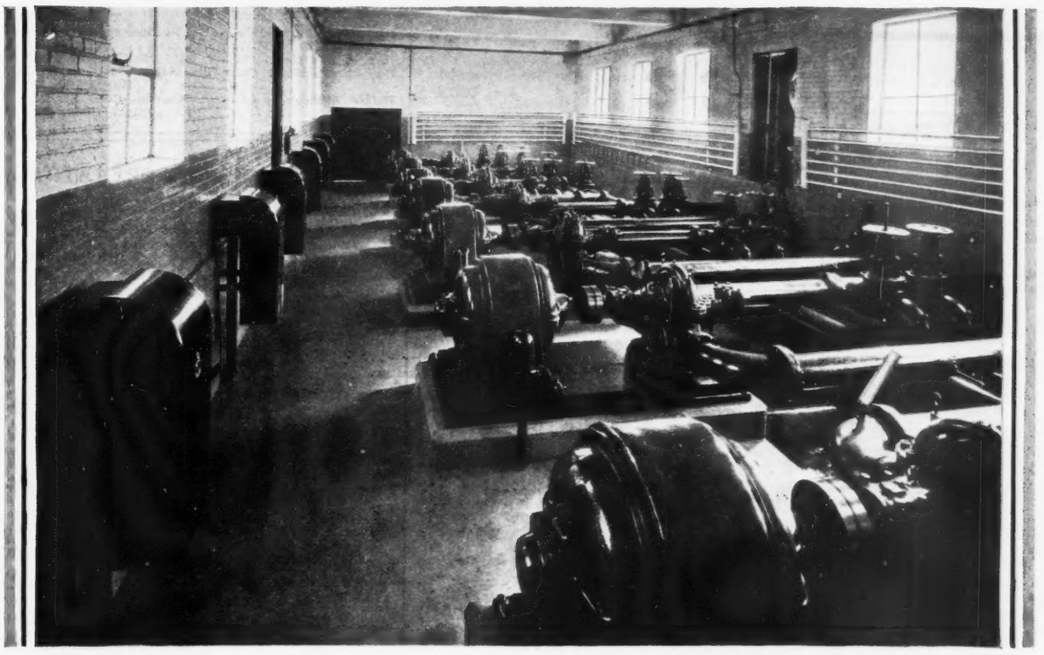
Gibson's No. 1 Mueller, C SW Sec. 11-23-14w ..... Drlg. 3,815 ft.

STEVENS COUNTY

Argus Oil Co.'s No. 1 Armstrong, CNL S half NW Sec. 16-34-39w ..... Drlg. 1,727 ft.
Argus Oil Co.'s No. 1 Parker, C SW Sec. 19-34-36w .... Drlg. 2,000 ft.
Argus Oil Co.'s No. 1 Smith, C SW Sec. 13-33-37w ..... Drlg. 2,400 ft.
McNabb et al's No. 1 Ramey, C SW Sec. 1-33-38w .... Drlg. 2,000 ft.
Argus Gas Co.'s No. 1 Hobbe, C SE Sec. 17-32-37w .... Fishing 2,625 ft.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w ..... Shut down 1,600 ft.

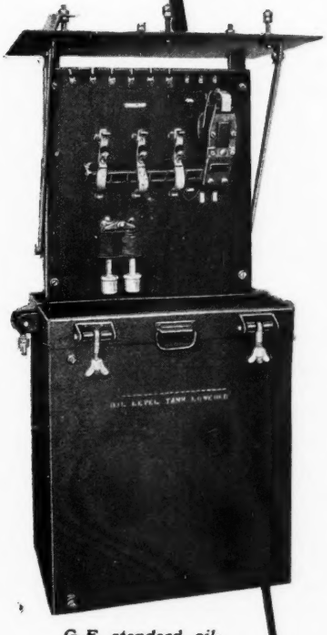
SUMNER COUNTY

Hatfield's No. 1 Dauber, NE cor. Sec. 18-30-1w ..... Shut down 50 ft.
Slick et al's No. 1 Peasel, NW cor. Sec. 33-31-1w ..... Chat 3,651 ft.; drilled to 3,668 ft.; drlg. deeper at 3,775 ft.; pinched to 75 bbls. a day.
E. K. Carey and Laredo Oil Co.'s No. 1 Welsch, SW SE Sec. 9-34-1e ..... Drlg. 3,902 ft.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w ..... Rig.



A group of seven 100- and 60-hp. G-E motors with G-E compensators, used on water-circulating pumps, Continental Oil Co., Ponca City, Okla.

Standard G-E compensator (oil tank lowered)



G-E standard oil-immersed magnetic switch

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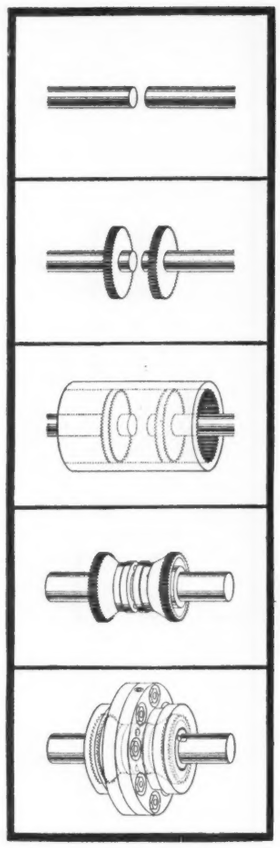
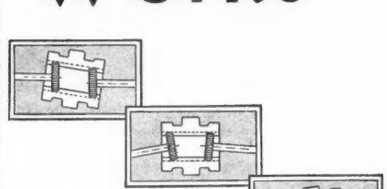


See how FAST'S Coupling Works



Two spur gears, one on each shaft end, mesh in oil with the internal gears of a floating sleeve, the entire assembly revolving as one unit, misalignment being taken up between the gear faces.

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See how simply it works. No matter what form of misalignment, the sleeve takes a neutral position. Bearings and shaft are protected from damaging stresses. The entire coupling has no flexible parts. Nothing to fatigue and fail. Nothing to be replaced.

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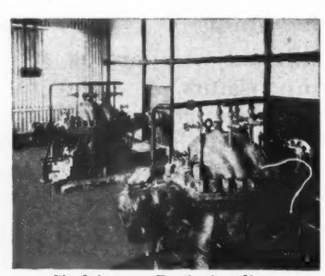

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TREGO COUNTY

Dixie and Amerada's No. 1 Reitmayer, C NE NE Sec. 19-14-21w ..... Drlg. 3,725 ft.
Day et al's No. 1 Guyler, SW NE NE Sec. 36-12-21w .. Shut down 50 ft.
Day et al's No. 1 Unknown, NE NW SW Sec. 2-11-21w .. Abandoned 3,871 ft.

WOODSON COUNTY

Derby & Spencer's No. 1 Kingon, CNL SE NW Sec. 29-23-15 ..... Rig.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w ..... Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w ..... U.R. 5-in. csg.; T.D. 4,265 ft.

FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW SW Sec. 28-1n-22w ..... Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w .. Shut down 3,250 ft.

RICHARDSON COUNTY

Norton et al's No. 1 Hauser, NE cor. Sec. 26-1-14 .... Location.

ROCK COUNTY

North Central Dev. & Drlg. Co.'s No. 1 Leonard, SE cor. NE Sec. 14-32-18w ..... Drlg. 900 ft.

WEBSTER COUNTY

Mid-Kansas Exploration Co.'s No. 1 Platt, C SE one-half Sec. 3-1n-11w ..... Shut down 555 ft.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 50)

GRANT COUNTY

Gypsy Oil Co.'s No. 1 Belderbeck, C SE SE Sec. 27-28-7w. Wilcox 5,647 ft.; drlg. 5,926 ft.
Baucher et al's No. 1 Deadman, SW SE Sec. 12-28-4w.. Fishing 4,737 ft.
Cowden et al's No. 2 Vollmer, CEL NE SW Sec. 22-25-4w. Shut down 5,640 ft.
Otstot's No. 1 Tabor, C NE NE SE Sec. 23-26-3w ..... Drlg. 4,755 ft.

GARVIN COUNTY

Nelson et al's No. 1 Strickland, NE SW Sec. 10-4-3 ..... Drlg. 1,340 ft.
Pickham-Harris' No. 1 Community Gaines, C NW NE Sec. 11-4-1 ..... Drlg. 4,207 ft.

GREER COUNTY

Helmerich & Payne's No. 1 Henck, NW cor. Sec. 23-6-24w ..... Fishing 2,240 ft.
I. T. I. O. et al's No. 1 fee, C SW NE Sec. 17-6-24w .... Drlg. 2,173 ft.

HARMON COUNTY

Harmon-Tex Oil Co.'s No. 1 Hoadley, NE cor. Sec. 17-4-24w ..... Drlg. 1,000 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w.. Shut down 625 ft.

HARPER COUNTY

Empire's No. 1 Bruce, C NE SW Sec. 12-25-20w ..... Drlg. 2,210 ft.
Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w ..... Drlg. 7,710 ft.

HASKELL COUNTY

Mid-Western's No. 1 Poseter, C NE SE Sec. 33-10-22.... Drlg. 1,225 ft.
Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e ..... Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE SW Sec. 10-9-18e.. Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e.. Shut down 2,100 ft.

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11 ..... Rig.
Canady et al's No. 1 Kanard, NW SW Sec. 29-9-12 .... 1,000,000 ft. gas 2,284-90 ft.; total depth 2,815 ft.; shut down.
Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 ..... Shut down 1,200 ft.

KAY COUNTY

Waggoner Pet. Co.'s No. 1 Hinkle, C SW NW NW Sec. 3-26-3 ..... O.W.D.; total depth 2,430 ft.
Blankenship Petroleum Co.'s No. 1 Hansen, SW NW SW Sec. 17-27-2 ..... Shut down 50 ft.
Skelly and Empire's No. 1 Maple, SW cor. Sec. 20-27-4.. Drlg. 2,112 ft.

KINGFISHER COUNTY

Superior Oil Co.'s No. 1 Story, SE cor. Sec. 25-19-5w .. Fishing 6,285 ft.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w ..... Shut down 6,015 ft.

KIOWA COUNTY

Merrick Oil Co.'s No. 1 Kelly, NW cor. SE Sec. 20-7-17w. Shut down 1,525 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24.. Total depth 5,440 ft.; 15,000,000 ft. gas; fishing 5,483 ft.

LATTIMER COUNTY

Limestone O. & G. Co.'s No. 1 Shaw, NW cor. NE NW Sec. 23-5-18e ..... Drlg. 2,600 ft.

LINCOLN COUNTY

Tom Slick Oil Co.'s No. 1 Hammer, SE NW NW Sec. 35-16-2 ..... Drlg. 1,600 ft.

LOGAN COUNTY

Prairie and Slick's No. 1 Morgan, NW NE Sec. 33-16-1w ..... Location.
Currier's No. 1 Young, C SW NE SW Sec. 34-17-4w .... Rig.
Haley & Smith's No. 1 Guier, SE cor. SW Sec. 33-18-3w. Shut down 3,970 ft.

McCLAIN COUNTY

Sunray Oil's No. 1 Newsome, C SE NE NE Sec. 16-5-3 .. Wilcox 3,995-4,050 ft.; 3,000 ft. fluid in the hole.

McINTOSH COUNTY

T. C. Young's No. 1 Derrison, Sec. 3-12-15 ..... Shut down 1,275 ft.
Jennings Brothers' No. 1 Crabtree, NW SW NE Sec. 31-10-14 ..... Cementing 5-in. csg. 4,714 ft.
Patterson et al's No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.

MURRAY COUNTY

Chieftain Royalty Corp.'s No. 1 Hendrix, SW SE NW Sec. 27-2-2 ..... Rig.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19.... Shut down 1,011 ft.

NOBLE COUNTY

Gypsy Oil Co.'s No. 1 Bergstrom, SE NE Sec. 28-22-1w .. Drlg. 2,990 ft.

OKFUSKEE COUNTY

Irwin et al's No. 1 Davis, SE NW Sec. 16-13-9 ..... Drlg. 1,575 ft.
Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9 ..... Shut down 2,795 ft.
E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9 ..... Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10.. Shut down 3,661 ft.

OKLAHOMA COUNTY

Prairie and Slick's No. 1 Dill, SE NW Sec. 17-13-3w .... Rig.
Cromwell-Franklin's No. 2 Thompson, SW NE Sec. 15-12-3w ..... Drlg. 2,732 ft.
Warr et al's No. 1 Castle, SW NW Sec. 20-11-3w ..... Drlg. 1,980 ft.
J. F. Cuniff, trustee's No. 1 Church Land, NE SW SE Sec. 17-12-4w ..... Drlg. 4,725 ft.
Magnolia and Ramsey's No. 1 Johnson, C NE SW Sec. 35-13-3w ..... Drlg. 5,163 ft.
Ryan Consolidated's No. 1 Lawton, NE NW Sec. 3-11-2w. Drlg. 5,510 ft.
Tom Slick Oil Co.'s No. 1 Martin, C NW NW Sec. 13-13-1w ..... T. D. 6,971 ft.; water; plugging back 6,871 ft.; testing.
Hall & Briscoe's No. 1 Holmes, NE cor. SW SE Sec. 10-11-3w ..... Drlg. 4,976 ft.

OSAGE COUNTY

Peters Petroleum Co.'s No. 1, SW cor. NE Sec. 5-22-8 .... Rig.
Kay County Gas' No. 1, C N half NE Sec. 28-24-4 ..... Drlg. 2,000 ft.
Continental Oil Co.'s No. 1, NW SE SE Sec. 24-24-5 .... Drlg. 3,031 ft.

PAWNEE COUNTY

Flynn & Morgan's No. 1 Jones, SW NE Sec. 22-20-5 ... Rig.
Cochran et al's No. 1 Green, NE cor. SW Sec. 15-23-5 .. Rig.

PITTSBURG COUNTY

Empire O. & R. Co.'s No. 1 Williams, C NE SE Sec. 33-7-16e ... Shut down 3,975 ft.

POTTAWATOMIE COUNTY

Keister & Manning's No. 1 Rowlett, SW SE NE Sec. 30-8-4 ... Drlg. 4,468-80 ft.; pinched to 100 bbls.
Payne Drlg. Co.'s No. 1 Bullock, SE NE Sec. 22-6-3 .... Shut down 4,130-4,201 ft.; hole full water.

ROGER MILLS COUNTY

Bucy & Stone's No. 1 Williams, C SW Sec. 23-12-24w.. Drlg. 2,214 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w ... Shut down 2,905 ft.

SEMINOLE COUNTY

M. H. Watt et al's No. 1 McGilbray, SE NE Sec. 4-8-8 ... Location.
Magnolia and Twin State Oil Co.'s No. 1 Harns, SW NE NE Sec. 8-5-6 ... Drlg. 1,127 ft.
Producers & Refiners' No. 1 Factor, NW SW Sec. 30-6-6. Abandoned 3,350 ft.
Independent Oil & Gas Co.'s No. 1 Johnson, C NE NE Sec. 33-9-8 ... Drlg. 3,353 ft.
Prairie Oil & Gas Co.'s No. 1 Anders, NW cor. Sec. 23-6-6 ... Drlg. 3,570 ft.
Anderson & Kerr's No. 1 Morgan, SE cor. Sec. 19-6-6... Drlg. 2,950 ft.
Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 35-5-5 ..... Location.

WASHITA COUNTY

Southern Inv. Co.'s No. 1 Musie, NW cor. Sec. 10-9-20w.. Rig.

WOODS COUNTY

Peerless O. & G. Co.'s No. 1 Crowell, C NW NE Sec. 23-28-16w ... Drlg. 5,145 ft.
Gypsy-Prairie et al's No. 1 Thompson, SE cor. SW Sec. 10-25-15w ... Shut down 6,104 ft.
Sinclair Oil & Gas Co.'s No. 1 Showwalter, C SW SW Sec. 33-27-16w ... Shut down 6,790 ft.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-22-17w ... Shut down 1,387 ft.
Prairie Oil & Gas et al's No. 1 Wilbur, NE cor. NW Sec. 22-23-17w ... Drlg. 6,252 ft.
Burgoyne Brothers' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w ... Shut down 1,910 ft.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Bryant-Croxton's No. 1 Mason, NW NE NW Sec. 4-1s-14.. Shut down 1,498 ft.
Bookshire's No. 1 Guinn, NW cor. Sec. 18-3s-10 ..... Shut down 100 ft.

BRYAN COUNTY

Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9 ... Rig.
Johnson et al's No. 1 Ussery, SE SW SE Sec. 14-6s-7e.. Drlg. 50 ft.
Slab Oil Co.'s No. 1 Ryle, NW SE SE Sec. 27-6s-7 .... Drlg. 705 ft.
Marshall's No. 2 fee, C SW SE NW Sec. 26-5s-7 ..... Shut down; 6-in. csg. 265 ft.
Yale Oil Syndicate's No. 1 Craige, C NW NE Sec. 36-9s-9e ... Shut down 2,200 ft.

CARTER COUNTY

Campen-Lasater Co.'s No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ... T. P. 2,200 ft.; shut down.

CHOCTAW COUNTY

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-19e ... Shut down 1,346 ft.

COMANCHE COUNTY

Pelwin Oil Co.'s No. 1 Tafepirdy, C NW NE NE Sec. 5-1s-9w ... Location.

COTTON COUNTY

Empire O. & R. Co.'s No. 1 Chambers, NW SE Sec. 8-3-9w ... Drlg. 2,485 ft.
T. Medlin's No. 1 Johns, SW SE Sec. 8-2s-9w ..... Shut down 2,526 ft.

JEFFERSON COUNTY

Hart's No. 1 Standfield, C W half NE SE Sec. 33-7s-6w.. Underreaming 1,135 ft.

JOHNSTON COUNTY

N. A. Neff's No. 1 Chapman, C SW NW Sec. 20-4s-5 .... Location.

LOVE COUNTY

Gilcrease Oil's No. 1 Burkhart, NE NW Sec. 13-6s-1 ... Rig.

MARSHALL COUNTY

Golden Rule Oil Co.'s No. 1 Reeves-Gray, C NW SE NE Sec. 19-6s-6 ... Shut down 720 ft.

McCURTAIN COUNTY

Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 ..... Shut down 2,287 ft.

STEPHENS COUNTY

Wirt Franklin Petroleum Corp.'s No. 1 McPhail, NW SE Sec. 1-2s-7w ... Drlg. 3,024 ft.
Smythe et al's No. 1 Johnson, NE cor. Sec. 30-2-8w .... Swabbing 2,476-87 ft.; swab. 25 bbls. oil first day.

TILLMAN COUNTY

Bridwell Oil Co.'s No. 1 Rutherford, NE SE Sec. 11-4s-16w ... Drlg. 1,930 ft.
Flake's No. 1 Barba, NE SE NE SE Sec. 19-1s-16w ..... Shut down 832 ft.
Allen Brothers' No. 1 Howell, SW NE Sec. 13-1-17w .... Fishing 825 ft.
Landfair et al's No. 1 Smith, SE SW SE Sec. 6-2s-16w.. Location.
Nance et al's No. 1 Massie, NE NW Sec. 36-18-6w ..... Shut down 2,535 ft.

MICHIGAN FIELDS

(Continued from Page 61)

the Marshall gas sands, are being drilled in the vicinity of Clare.

The Clare Development Syndicate's No. 1 Mary Hubel well, SW SW, Section 27-17n-4w, Grant Township, Clare County, has reached a depth of about 1,400 feet and will soon be in the shallow gas sands.

As several wildcat wells near the Mount Pleasant Field including the No. 1 McKay-Mercier gasser have struck gas in commercial quantities in the Marshall, operators have great hopes for this well. As yet no commercial development of the Marshall gas sands in that part of the State has been made.

Another well which is just getting started near Clare is Charles Strange's No. 1 State, SE SW, Section 17-15n-1w, Jerome Township, Midland County.

No. 2 McKay well, NE NW NW, Section 6-17n-4w, Grant Township, Clare County, had a show of gas in the Marshall but is being carried on to the Dundee formation.

The Pure Oil Co. made the only two completions in the Mount Pleasant Field last week and both were comparatively small oil producers in Chippewa Township, Isabella County.

The Pure Oil Co.'s No. 2 John R. Veit, NW SE, Section 11-14n-3w, Chippewa Township, made about 100 bbls. initial production in the Dundee pay sands. The formation was topped at 3,534 and pay sands were encountered from 3,565 to 3,595 feet, the total depth of the hole.

The Pure Oil Co.'s No. 8 John Fox well, NW NW, Section 13-14n-3w, also Chippewa Township, made 142 bbls. initial. Dundee was first encountered in the No. 8 Fox well at 3,528 feet and pay sands at 3,554 to 3,582 feet, the bottom of the hole.

J. O. Duryee's No. 1 Johnson I. Bullard well, SE SW, Section 10-15n-4w, Isabella Township, Isabella County, had a hole full of water and was drilling at 4,020 feet but was expected to be plugged soon as a dry hole.

A show of oil struck at about 4,450 feet in the Pure Oil Co.'s No. 6-A Reems well, SE SE, Section 12-14n-3w, Chippewa Township, a deep test in the field, caused a flurry of excitement early last week in the Mount Pleasant Field until it was discovered that the well had been drilled into salt water directly below the oil show.

The show was struck in the lower part of the Upper Monroe or Detroit River formation.

Muskegon Field

The deepest well ever drilled in the proven Muskegon oil field of western Michigan was abandoned last week after being plugged at a total depth of about 2,325 feet.

The well was Mrs. C. G. Marsh, trustee's No. 2 Albert Young, located in SE NE, Section 12-10-17, Laketon Township. A slight increase in production was experienced at about 2,060 feet after the well originally had been a large producer of oil in the Dundee formation at 2,030 feet.

The new streak of pay soon played out, however, and the well was carried on to its final depth in hopes of striking something at less than 2,500 feet. No water, gas or oil had been struck.

Work was resumed at about the same time on a well which is to be made a real deep test in the field. That is the Reed Oil Co.'s No. 2 Albert Heinz well, NW SE, Section 8-10-16, Muskegon Township, on the Muskegon River flats.

Casing was pulled from the well, now about 2,125 feet deep, and it will be underreamed before being carried deeper in search of new pay sands beneath the Traverse and Dundee, known producing sands in the Muskegon Field.

One of the largest flows of gas struck recently in the Muskegon Field was encountered in the Joliet-Morris Development Co.'s No. 2 John Ehler, SW NE, Section 8-10-16, located on the bank overlooking the Muskegon River flats.

This well came in with a flow gauged at 3,500,000 feet a day at 1,925 feet in the lower Traverse pay sands. Originally it was an upper Traverse oil well.

L. E. Kennedy's No. 5 Charles I. Giles, NE SE, Section 6-10-16, Muskegon Township, which came in as a 287-bbl. initial producer, was deepened from 2,049 to 2,106 feet but drilling was stopped there and the well is to be plugged back and produced from the Dundee. It will pump about 10 bbls. a day.

The Blue Arrow Petroleum Co.'s No. 2 Workman, NW SE, Section 8-10-16, Muskegon Township, on the river flats, was drilled into the Dundee oil pay sands without casing so it was impossible to tell what production it will make at that depth. The well had a good show of gas in the lower Traverse and originally was an upper Traverse oil well.

The Dixie Oil Co.'s No. 2-D Kate McLaughlin, SW SW, Section 12-10-17, Laketon Township, at 2,130 feet, is one of the deepest wells in that part of the field and is drilling deeper. It has not been decided how deep it will be drilled.

Three wells were cased and ready for completion in the Dundee formation at the close of the week. All had been original upper Traverse oil producers and were located one in Laketon Township and the other two in Muskegon Township.

All three will have been drilled in this week.

Oceana County

Operators of the No. 1 Vanderwaal well, SW NE, Section 35-14n-17w, Shelby Township, Oceana County, are about ready to quit after reaching a depth of nearly 4,000 feet without success.

For the last 700 feet the drill has been passing through pure rock salt with no signs of oil, gas or water. The well has struck no water since the upper Traverse formation and may soon be plugged and abandoned as a dry hole.

Four other wells are drilling in Oceana County including Edward DuVall's No. 1 Schultz, Charles W. Teater's No. 1 Stewart ranch, the Red Rock Oil & Gas Co.'s No. 1 Skidmore, and the North American Trust Co.'s No. 2 Iroquois Oil Co. well near Fruitvale.

DuVall's well is below the Dundee pay sands and the North American Trust well is casing for Dundee.

Kalkaska County

Salt water was struck in the No. 2 State well of the Muskegon Oil Corp. and the Grayling Development Co. last week in the Dundee formation and the well has been shut down until it has been decided whether to plug it or continue drilling deeper.

Water was struck at 2,887 feet at nearly 100 feet in the Dundee. The well is located in NW NW, Section 16-26n-5w, Clearwater Township, Kalkaska County.

SOUTHWESTERN MICHIGAN

Oil drilling activities are being resumed in southwestern Michigan with the coming of spring weather making access to wildcat areas in this part of the state easier than it has been during the winter months.

Blair & Miller, the latter a former Muskegon operator, have plugged their No. 1 Charles Stutsman, NE NW, Section 32-7n-14w, Porter Township, Cass County, and have taken a permit and started No. 2 Stutsman, about 800 feet from the No. 1 well.

Drive pipe has been landed on the second well about 20 feet higher than in the No. 1 well, in which several shows of oil and gas were struck last fall. The No. 1 well was about 1,135 feet deep when abandoned and plugged.

C. A. Daniels' No. 1 Charles Clute, NW NE, Section 2-7s-13w, also in Porter Township, Cass County, has been plugged at about 2,000 feet. The exact depth has not been made public.

Drilling also was resumed last week by V. M. Voorhees, Muskegon contractor, on the Berrien Petroleum Syndicate's No. 1 Franz, SE SE, Section 3-7s-16w, Howard Township, Cass County, and 8-inch pipe is being landed at 370 feet.

A drilling rig has been unloaded at New Buffalo near the Indiana-Michigan line where William Augenstein, one of the members of the discovery well drilling crew in the Muskegon Field, has recently obtained contracts to drill three new wildcat wells.

Three wildcat wells are being drilled in Allegan County and a new wildcat will be started soon near Covert, Mich.

The National Petroleum Co.'s No. 1 Oliver W. Gore, NW NW, Section 13-3n-12w, Hopkins Townsite, Allegan County, has been shut down for a few days at about 1,925 feet.

Gibson-Johnson and the Dixie Oil Co. struck salt water in the upper Traverse formation at 1,078 feet in their No. 1 J. Krocke well, NW SE NW, Section 23-1s-16w, Geneva Township, Van Buren County.

The well is now drilling ahead at about 1,300 feet.

LA.-ARK. FIELDS

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at a total depth of 2,990 feet. The Triangle wildcat is about 5 miles southwest of Mooringsport in a locality where Haynes Brothers and other operators obtained some showings at around the average depth of Mooringsport district producers and below, several years ago.

Bayou State Oil Corp.'s No. 2 Barr, Section 30-22-15, Hosston district, went on the pump for 25 bbls. initial, total depth 1,101 feet and Falcon Drilling Co. abandoned No. 2 Nunnely, Section 29-20-15, Mooringsport district, as a junked hole at 1,985 feet.

W. A. Nichols and associates have a block of 6,000 acres 5 miles southeast of Gibsland in Bienville Parish and have set 12½ inch at 100 feet and are drilling at 500 feet on No. 1 McDermott in Section 28-18-6.

One Failure and One Gas Well Each

Ouachita and Richland Parishes had one failure and one gas well each. G. E. Jordan's No. 1 Anding, Section 18-18-5, Ouachita Parish, was abandoned as a salt water hole at 2,480 feet, registering another failure in exploring the so-called "second sand" in the Monroe Field from which only two successful tests have been produced from a long string of prospects. Sho-Van Gas Products Co.'s No. 3 West Virginia, Section 8-18-5, gauged 3,745,000 feet at 1,000 pounds, at a total depth of 2,201 feet.

Louisiana Gas & Fuel Co.'s No. 1 Chapman, Section 36-16-6, a semiwildcat in the southeast corner of Richland, was abandoned as a salt water hole at 2,493 feet following a blowout at that depth. No. 1-C Sartor, Section 21-16-6, formerly carried as a Natural Gas Producing Co. operation, gauged 20,520,000 feet of gas at a total depth of 2,440 feet. All operations formerly listed as Natural Gas Pro-

ducing Co. wells are now carried as Louisiana Gas & Fuel operations, the former concern, a subsidiary of the latter, having lost its identity.

Palmer Corp.'s No. 1-A Marston, Section 11-19-10, in the prospective gas field of West Carroll Parish, had 20 feet of broken sand showing oil on ether test and set 5-inch at 2,592 feet but on drilling plug bailed salt water and is making another test. H. L. Hunt's No. 1 Brown, Section 4-21-11, West Carroll, plugged back to fill a cavity in which it lost returns and is drilling cement at 1,016 feet.

Early in the week reports came from Concordia Parish in the central eastern part of the state that Marr and others' No. 1 Maxwell, Section 35-3n-8e, had made an oil show at 1,692 feet but investigation failed to back it up, there being nothing showing in the pit or ditch or anywhere else. Meanwhile the well is shut down while Marr is in Houston conferring with his associates. One completion was reported from Webster Parish, Magnolia Petroleum Co.'s No. 2 Denman, Section 1-22-11, in the Sarepta district, which pumped 30 bbls. of oil and 225 bbls. of salt water from 2,749 feet.

Gauges 250,000 Feet of Gas

Bahan & Bahan's No. 1 Tom Hill in the E. F. Mitcheson Survey of Panola County, Texas, gauged 750,000 feet of gas after setting 2½-inch tubing with packer, the way most recent producers in that area have been completed, at 2,327 feet.

There was a flurry during the week concerning R. E. Davidson's No. 1 Chapman in the Jackson Grayson Survey of Marion County, close to the Cass County line and about half way between Lodi and the Louisiana state line, early in the week because he found the chalk at 1,936 feet, approximately 100 feet higher than it had been found in older prospects. Total depth at present is 2,340 feet, with approximately 400 feet of the chalk and although there has been no show of oil or gas there has been more or less activity in buying, Arkansas Natural Gas Corp., for instance, reported taking 1,000 acres of Davidson's block for $12,500 and The Texas Company is busy with royalties.

Lion Oil Refining Co. abandoned No. 1 James in Section 6-16-15, Union County side of Smackover at 2,018 feet and Arkansas-Louisiana Pipe Line Co.'s No. 1 Crutcher in Section 14-9-21, Pope County, an Arkansas Valley wildcat, was a dry hole at 1,705 feet.

El Dorado is pepped up over the showing of Marine Oil Co.'s No. 1 Simmons, Section 10-18-13, in which Simms Oil Co. has a half interest. With broken sand from 3,525-31 feet, it is standing 2,000 feet in oil and made one head while bailing. Marine Oil Co.'s No. 2-B Winn, Section 10-18-13, cored sand showing oil from 3,525-31 feet and is arranging for a drill stem test. These two developments are good news to El Dorado operators, who have been discouraged by developments in the Urbana district since Modisette Drilling Co. and Marine Oil Co. completed their producers several weeks ago.

Gulf Refining Co. was getting close to the bottom in reaming to set 9-inch at 2,500 feet on No. 1 Rainey, Section 13-5-1e, Rankin County, which developed a show of oil at 2,500-10 feet, the oil working out 13.2 gravity. It is a heavy asphaltic crude closely resembling Nevada County, Arkansas, oil.

CANADIAN FIELDS

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some bailing the well started to blow mud, water and rock fragments,and looks good for possibly 3,000,000 feet a day with a small crude naphtha recovery. Royalite's No. 19, LSD 5, Section 6-20-2w5, is at 4,641 feet and drilling. Royalite's No. 23, Section 31-19-2w5, has a hole cleaned out to bottom at 5,331 feet and may try another shot in the lime.

It is unofficially reported that Imperial Oil, Ltd., is planning extensive new development work in the Turner Valley Field, including a program of six additional tests for the Dalhousie Oil Co.

South Turner Valley

In the South Turner Valley, Section 4-19-2w5, is attracting considerable attention. Mill City Petroleums' No. 1, LSD 14, is drilling in a hard formation 277 feet in the lime at 4,787 feet depth. Drilling is being carried on against heavy gas pressure. The well is about 100 feet deeper in the lime than the point where the Home wells, further north, got their big production. In the same section Mercury Oils' No. 3, LSD 2, got the lime at 5,083 feet but is standing. Mercury's No. 2, LSD 12, after encountering the poker chip shales is drilling in what looks like a recurrence of the Dalhousie sands at 4,692 feet. Mercury's No. 5 is drilling at 2,150 feet.

In Section 20-19-2w5, Calmont Oils' No. 12 rigging up. Alberta Pacific Consolidated's No. 2, LSD 5, is drilling 146 feet in the lime at 5,311 feet; No. 1, same LSD, is working on casing at 5,358 feet. Homestead Oils' No. 1, LSD 5, Section 16-19-2w5, is reported drilling 147 feet in the lime at 4,433 feet.

Spray Oils' No. 1, LSD 9, Section 5-19-2w5, is drilling in the Dakotas at 2,150 feet with a small gas show. In the far south, Merland Oil Co.'s No. 1, Section 27-18-2w5, is installing rotary outfit to resume at 4,470 feet. The well has been taking a small production, 10 to 15 bbls. a day, from the Dalhousie sand at this depth, and will be carried to the lime. The strike in the Dalhousie some months ago looked like an important development, an initial wet gas flow of 30,000,000 feet being reported with a recovery of 100 bbls. a day of 78.8 degree naphtha. The production, however, soon petered out; and geologists now claim that a thrust fault exists in the vicinity of the well with the Dalhousie sand resting on a producing lime horizon.

Central Turner Valley

In the Central Turner Valley, Freeman-Lundy Syndicate's No. 1, LSD 10, Section 1-20-3w5, is drilling over 200 feet in the lime at 5,100 feet depth with increased gas pressure. McLeod's No. 1, LSD 16, is deepening from 100 feet in the limestone at 3,930 feet, after shooting to sidetrack a lost string of tools. The well had a good production but trouble due to the lost tools reduced the flow to around 20 bbls.

British Dominion Oil Development Corp.'s No. 3, LSD 6, Section 12-20-3w5, about 600 yards southwest of No. 2 producer, has cellar dug and is starting on derrick, test to spud in early in April. Spooner Oils' No. 4, LSD 14, Section 13-20-3w5, is working on derrick, about 400 feet north of No. 2 producer.

In the North Turner Valley, Model Oils' No. 1, LSD 8, Section 22-20-3w5, drilling 60 feet in the lime at 5,860 feet has increased gas indications with shows of light crude. Invader Oils' No. 1, LSD 10, Section 9-21-3w5, in the far north of the field, got a considerable show of crude at 4,685 feet and is deepening.

Operations in Foothills

Western Alberta Oil Co.'s No. 1, LSD 11, Section 7-17-2w5, has resumed 46 feet in the lime at 3,178 feet, after replacing derrick wrecked by a wind storm. This is the only test in the foothills now drilling in the Madison limestone. Hudson Bay Oils' No. 1 Highwood, LSD 8, Section 1-18-3w5, is resuming with cable tools at 1,215 feet. The well bottoms in the Kootenays and the lime is expected in about 300 feet. The well has gas enough for boilers and camp.

On the Waite Valley structure, Calgary Development and Producing Corp.'s No. 1, LSD 10, Section 21-19-3w5, is drilling at 2,606 feet after getting about 1,500,000 feet of wet gas in the Dalhousie sands; and should get the lime around 2,900.

On the Morley Reserve, Wabash Oils' No. 1 is testing production in the Devonian limestone at 3,066 feet, and may prove a small producer.

Moose Mountain Structure

On the Moose Mountain structure, Signal Hill Oil Co.'s No. 2, LSD 9, Section 34-23-5w5, is drilling at 3,865 feet. This area is of interest in view of the oil showings encountered here in 1914-15 in tests drilled by the Moose Mountain Oil Co. The shows indicated a normal high grade crude oil, but Moose Mountain's No. 1 was lost by a shot, and No. 2 was not finished. Later the Signal Hill Oil Co. secured drilling rights on the Moose Mountain company's acreage, resumed No. 2 well as Signal Hill's No. 1, abandoned it, and started the present No. 2, which has been drilling for some years and quite recently encountered some shows of crude.

In the same area, Elbow Oils' No. 1, LSD 11, Section 35-22-5w5, is preparing to resume at 3,045 feet.

Alberta Pacific Activities

Announcement has been made that during the coming year Alberta Pacific Consolidated Oils, Ltd., of Calgary, will undertake extensive exploratory work in Alberta for potential oil structures. In addition the company will undertake a considerable program of drilling. Five geological crews will be engaged in prospecting and surveying under the general supervision of Dr. T. B. Williams, chief geologist, in an attempt to discover new fields.

In addition to two tests in the Turner Valley drilling fairly close to deep lime production, a development program is already under way in the Red Coulee Field. Following the securing of production by Vanalta Oils, Ltd., on Alberta Pacific leases, arrangements have been made with several other Alberta companies for development on a royalty basis.

On the Duvernay structure near Edmonton, where the company holds a half interest in 12,000 acres, arrangements have been made for immediate drilling; while in the southern areas a deep test at Spring Coulee will spud in within a few weeks. The company holds acreage on the Brown Creek, Canyon Creek, Parker Creek, Milk River, Del Bonita, Wainwright, Monarch, Sarcee, Rogers-Imperial and Jumping Pound structures as well as in Montana; much of which will likely be developed by other companies on royalty.

Red Coulee Field

In the Red Coulee Field, Cosmos Oil Co.'s No. 1 Thacker, Section 2-37-4w, on the Montana end of the structure, is reported flowing steadily with a flush production estimated between 300 and 400 bbls. a day. After getting the sand around 2,550 feet, the well was swabbed, started to flow by heads, and later came into a steady flow. At last reports it was being cleaned out for a complete production test. Monalta Oil Co.'s No. 2 Buckley, Section 1-37-4w, is landing and cementing 6-inch casing at 2,350 feet preparatory to drilling into the Sunburst sand, where the two Vanalta producers on the Alberta side encountered gas and Cosmos' No. 1, northwest of the Monalta, got crude, gas and water. Mid-Continent Oil Co.'s No. 2 Farbo is drilling at 1,859 feet.

On the Alberta end of the structure, Vanalta Oils' No. 1 discovery well is reported pumping 57 bbls. a day and Vanalta's No. 2 from 53 to 55 bbls. Southern Alberta Exploration's No. 1, LSD 8, Section 3-1-16w4, is reported rigging up. Devonshire Oils' No. 1, LSD, 3-4, Section 10-1-16w4, is working on derrick with machinery on the ground. Dalco Oil & Gas Co.'s No. 1, LSD 4, Section 11-1-16w4, has steel derrick practically finished. Ko top Oils' No. 1, LSD 1, Section 2-1-17w4, has moved out supplies and is resuming at 1,650, with a small fishing job to finish before drilling can start. The test at this depth has a gas show, reported 2,000,000 feet. Commonwealth Petroleums' No. 1, LSD 10, Section 3-1-16w4, is reported spudding in. J. W. Elliott has the contract, cable tools being used; location is a mile east of Vanalta's No. 1 producer. Alberta Pacific's No. 1, LSD 2, Section 3-1-16w4, has cellar dug and is starting on derrick. Lethbridge and Russell V. Johnson, geologist, is making final location for No. 1 test in LSD 10, Section 6-1-16w4. Homestead Oils' No. 1, LSD 1, Section 4-1-17w4, is preparing to start work.

Capitol Oil & Gas Co. of Vancouver is preparing to start No. 1 test in LSD 3, Section 21-1-16w4. Beverly Oil Co. of Toronto is letting contract for its No. 1 test in LSD 3, Section 24-1-17w4. George H. Slipper is field representative. Livingstone-Mayland Syndicate of Calgary has located its No. 1 in LSD 12, Section 1-1-16w4. Texacana Oils' No. 1 has been spotted in LSD 7, Section 1-1-17w4. Madison Oils, Ltd., of Calgary, is planning to start a test this spring on its Red Coulee acreage.

Skiff Field

In the Skiff Field, Devenish Petroleums, Ltd., of Calgary, is reported resuming active work. Contract has been made with Dauntless Oils, Ltd., to drill Devenish's No. 4 for a stock consideration and the test has been spotted in NW, Section 29-5-14w4. Devenish's No. 4 is expected to spud in before May 1, with the sand looked for around 3,000 feet. Under the contract Dauntless Oils, Ltd., has the option to drill a second well on similar terms within 60 days of completion of Devenish's No. 4.

The Skiff Field latterly has been inactive following completion of Dauntless Oils' No. 1, LSD 9, Section 36-6-15w4. The latter got oil sands at 3,024 and 3,260 feet and was shot; but the oil sand proved too tight for cemmercial production. Dauntless's No. 1 was accordingly abandoned and the rotary outfit and other equipment are being moved to Devenish's No. 4 to the southeast. Alf Ireland, formerly of the Santa Maria, Calif. field, will have charge of the drilling.

Border Fields

On the Beaver Dome, Madison Oils' No. 2, LSD 10, Section 24-2-11w4, is preparing to resume at 1,810 feet after a winter shutdown. The test has a considerable gas flow.

In the Milk River district, Capitol Oil & Gas Co.'s No. 1-A, LSD 16, Section 32-1-12w4, is reported drilling in the lime at about 3,100 feet with traces of oil and gas. Commonwealth Petroleums' No. 1, LSD 9, Section 9-3-15w4, is drilling in the Devonian limestone at 3,655 feet after getting a good show of gas.

On the Mowmac structure, close to the Blood Indian Reserve, Teapot Dome Oils' No. 1, Section 31-9-23w4, is preparing to start work on derrick. Cellar was dug and camp buildings run up last fall.

In the Lomond district, Hudson Bay Oils' No. 2 Lomond, Section 23-17-18w4, has resumed drilling from 925 feet where 18-inch casing was cemented.

In the Lens district, the Nordon Corp. has commenced structure tests on the F. Breen farm.

Wainwright Field

In the Wainwright Field, east central Alberta, drilling operations have been hampered by recurrent cold weather and late snowfalls. Weymarn Petroleums' No. 1, LSD 13, Section 14-47-5w4, is reported working on derrick and shipping in heavy duty standard outfit.

Indications are that considerable new drilling will be undertaken this spring in the untested area between the Wainwright and Ribstone Fields.

In the Kinsella Field, Duluth Syndicate's No. 1, LSD 8, Section 29-48-10w4, will, it is reported, be finished as a gasser at 2,083 feet. At this depth the test this winter got a big gas production, estimated as high as 40,000,000 feet a day. Equipment is being hauled to a location about a mile from No. 1, where No. 2 will be started this spring, probably as a deep test.

In the Viking Field, east central Alberta, Northwestern Utilities, Ltd., is hauling pipe to a location 12 miles north of Viking where a test will be drilled to the Viking gas sand. The company is planning to drill three gas wells this summer.

Ontario Drilling

In Kent County, Ontario, American Engineering Co.'s No. 1, Lot 47, south of the Talbot Road, in Raleigh Township, got the gas sand between 1,495 and 1,555 feet, with a flow of 150,000 feet of gas. It was shot with 280 quarts and registered 1,800,000 feet of gas one hour after the shot, with 600 pounds rock pressure. Union Natural Gas Co. and Southern Ontario Gas Co. have derricks up for several new tests. Produc-

tion of American Engineering Co.'s No. 1 has been contracted to Union Natural Gas Co. No. 2 will be started on a nearby lease.

In Colchester Township, Essex County, Acme Gas & Oil Co.'s community test near Arner is reported to have resumed at 1,110 feet. The test got a fair gas flow at 970 feet.

In the Bothwell Field, Kent County, Olga Oil & Gas Co.'s No. 2 deep test south of the provincial highway, previously reported without a shot, got the granite at 3,953 feet after drilling through the Trenton limestone.

In Middlesex County, Southern Ontario Gas Co.'s No. 2 test on the Ernest Armstrong farm, 1¼ miles north of Newbury, has encountered a fair gas flow in a test for oil.

British Columbia

In the province of British Columbia, Crow's Nest-Glacier Oil Co. is assembling equipment for further work on its No. 1 well in the Flathead Valley-Sage Creek area. No. 1 well got good oil and gas shows last fall. Derrick timbers for Crow's Nest's No. 2 are already on the ground. Cable tools will be used. No. 2 will be located about 1,500 feet from No. 1 and a little higher on structure.

James Bay District

In the James Bay district, northern Ontario, drilling operations will likely be resumed this season by the James Bay Basin Oil Co. of Montreal. Last year No. 1 structure test drilled on the Grey Goose Islands in Moose River indicated definite shows of oil at 467 feet, after encountered salt water and gas at 238 feet. Drilling operations by the Ontario provincial government some distance east of the James Bay company's acreage disclosed extensive deposits of lignite coal. The coal seams are thought to extend under the Grey Goose Islands. The James Bay Basin Oil Co. is the only private oil company operating in this area, which sometime ago was reserved from leasing by the Ontario government.

PANHANDLE FIELDS

(Continued from Page 66)

production of 4,500,000 feet of gas at 3,320-35 feet.

Palo Pinto County

Dalton's No. 1 fee was dry and abandoned at a total depth of 250 feet.

Throckmorton County

Ulrey's No. 1 Kischan was dry and abandoned at 932 feet after encountering a show of gas at 790 feet.

Shackelford County

Campbell Oil Co.'s No. 1 Bowman was dry and abandoned at 1,612 feet. Douglas & Earl's No. 1 Walker was dry and abandoned at 745 feet. Gibson & Johnson's No. 2 Simpson was dry and abandoned at 1,914 feet after encountering a show of oil and gas at 1,766 feet and at 1,822 feet.

PANHANDLE COMPLETIONS
Week Ending March 29

Gray County

Tripplehorn Oil Co.'s No. 1 J. S. Morse, located 330 feet south and west of SW SE, Section 17, Block A-9, H.& G.N.R.R. Survey, was drilled to a total depth of 2,808 feet, topped the pay at 2,710-24 feet and at 2,775-84 feet and also at 2,800-08 feet and had an initial production of 180 bbls. Champlin and Danciger Oil Co.'s No. 6 Cook-Faulkner topped the pay at 2,720-50 feet, was drilled to a total depth of 2,865 feet, and had an initial production of 2,672 bbls. with 20,000,000 feet of gas. Danciger and others' No. 1 Davidson was drilled to a total depth of 3,177 feet, plugged back to 3,163 feet and had an initial production of 25 bbls. of oil the first 24 hours. Magnolia Petroleum Co.'s No. 4 Wright, located 330 feet north and west of SE cor. S half SW, Section 13, Block 3, I.&G.N.R.R. Survey, topped the pay at 3,180-85 feet and 3,195 feet, was drilled to a total depth of 3,225 feet and swabbed 125 bbls. the first 24 hours.

Hutchinson County

Barnsdall Oil Co.'s No. 4-A Pritchard, located C SW NW, Section 3, Block 4, D.&S.E.R.R. Survey, topped the pay at 2,882 feet, was drilled to a total depth of 2,892 feet and had an initial production of 180 bbls. of oil and 80 bbls. of water.

Wheeler County

Murchison & Fain's No. 8 Close, topped the pay at 1,600 feet, was drilled to a total depth of 1,860 feet and had an initial production of 20,000,000 feet of gas.

WICHITA FALLS COMPLETIONS
Week Ending March 29

Archer County

L. T. Burns' No. 1 Wilson was dry and abandoned at 1,500 feet. H. Hines' No. 1 Jackson was dry and abandoned at 1,505 feet. Douglas Oil Co.'s No. 7 McClure had an initial production of 47 bbls. at 1,2981-,306 feet. Golding & Cochran's No. 4 Harmel was dry and abandoned at 1,462 feet. Goldsmith and King Royalty Co.'s No. 10 Kumkel had an initial production of 65 bbls. at 1,-138-57 feet. W. B. Hamilton's No. 1 Pace had an initial production of 3 bbls. of oil at 1,172-85 feet. M. & V. Oil Co.'s No. 4 Kunkel had an initial production of 20 bbls. of oil at 1,153-62 feet. J. J. Moran and others' No. 1 Herron was dry and abandoned at 1,388 feet. Paul B. Scott's No. 1 Farmer had an initial production of 28 bbls. at 1,459-66 feet. The Texas Company's No. 1 Wright had an initial production of 26 bbls. at 1,-450-55 feet. Williams and Primrose Refining Co.'s No. 1 Kunkel location was abandoned. W. C. Young's No. 2 Threet was dry and abandoned at 1,307 feet.

Clay County

J. B. Peacock and others' No. 1 Byers & Co. hole was junked and abandoned at 1,747 feet. Saxet Oil Co.'s No. 2-A Stine was dry and abandoned at 1,851 feet.

Cooke County

Lloyd Oil Corp.'s No. 9 Wheelock had an initial production of 2 bbls. of oil and 20 bbls. of water at 1,317-21 feet. C. J. Mellon's No. 1 Able was dry and abandoned at 1,514 feet.

Montague County

Bridwell Oil Co.'s No. 2 Dennis was dry and abandoned at 1,965 feet. W. H. Godfrey's No. 1 Lemon had an initial production of 20 bbls. of oil at 897-906 feet.

Fannin County

Erin Producing Co.'s No. 1 Darling was dry and abandoned at 1,300 feet.

Grayson County

F. H. E. Oil Co.'s No. 1 Henderson was dry and abandoned at 1,060 feet. Groves & Ruwalt's No. 1 Bishop was dry and abandoned at 1,002 feet.

Young County

Shaw Oil Corp.'s No. 2-A Kissinger was drilled to a total depth of 2,554 feet, topped the pay at 2,509 feet and had an initial production of 408 bbls. Christie Brothers' No. 2 Kissinger was drilled to a total depth of 2,543 feet, was shot with 40 quarts in the sand at 2,477-2,543 feet, and had an initial production of 257 bbls. Flute & Kay's No. 2 Kissinger was drilled to a total depth of 2,548 feet, and had an initial production of 400 bbls. E. G. Christie's No. 1 Robinson location was abandoned. Coleman & Shaw's No. 1 Wilson was dry and abandoned at 1,045 feet. W. R. Cooper's No. 1 Hardy was dry and abandoned at 703 feet. J. M. Dunn's No. 1 Doyle was dry and abandoned at 1,150 feet. Hallmack Oil Co.'s No. 1 Carpenter had an initial production of 43 bbls. at 884-905 feet. T. F. Hunter's No. 1 Taack was dry and abandoned at 1,203 feet. E. B. Madden and others' No. 1 Winkler was dry and abandoned at 1,-312 feet. Nix & Dale's No. 1 Daniel had an initial production of 30 bbls. at 875-86 feet. Panhandle Refining Co.'s No. 1 Jimerson was dry and abandoned at 900 feet. Riggs & Kliner's No. 1 Hardy was dry and abandoned at 728 feet. Riner & Omohundro's No. 1 Keith had an initial production of 20 bbls. of oil at 655-70 feet. Carl Wainwright's No. 2 Garvey was dry and abandoned at 791 feet.

Wichita County

Arkansas Gas & Fuel Co.'s No. 28 Kemp & Kempner had an initial production of 130 bbls. at 1,752-70 feet. McCarty Oil Co.'s No. 22 Kemp & Kempner location was abandoned.

Wilbarger County

Zenith Oil Co.'s No. 2 Dell had an initial production of 45 bbls. at 2,182-98 feet. The Texas Company's No. 23 Waggoner had an initial production of 20 bbls. at 2,366-70 feet. Waggoner Refining Co.'s No. 1 Waggoner had an initial production of 110 bbls. at 2,652-81 feet. Its No. 8 Waggoner had an initial production of 120 bbls. at 2,658-80 feet. McCarty Oil Co.'s No. 1 Waggoner had an initial production of 90 bbls. at 1,-837-41 feet. Moore's No. 1 Waggoner was dry and abandoned at 2,702 feet. Atlantic Oil Producing Co.'s No. 10 Sigler-Waggoner had an initial production of 85 bbls. at 2,696-2,709½ feet.

WEST TEXAS FIELDS

(Continued from Page 72)

back to 436 feet, topped the pay at 335 feet and had an initial production of 16 bbls. hourly. Dixie Oil Co.'s No. 1 McKenzie, located in Section 15, Block 604, G.C.&S.F.R.R. Survey, was dry and abandoned at 2,680 feet. Shell Petroleum Corp.'s No. 12 Smith was drilled to a total depth of 1,572 feet, topped pay at 1,524 feet, was shot with 200 quarts at 1,500-72 feet and had an initial production of 15 bbls. hourly. Shell Petroleum Corp.'s No. 1-D University, located Section 32, Block 16, was drilled to a total depth of 1,647 feet, topped the pay at 1,637 feet and had an initial production of 120 bbls. daily. Skelly Oil Co.'s No. 2 University-Bowser, located in Section 31, Block 16, University Land, was drilled to a total depth of 981 feet, topped the pay at 964 feet and had an initial production of 25 bbls. hourly. Southern Crude Oil Purchasing Co.'s No. 1 McKenzie was drilled to a total depth of 2,315 feet, plugged back to 1,525 feet, estimated 8,000,000 feet of sweet gas from 1,492-97 feet which exhausted after blowing open three days and was completed for 1,500,000 feet of gas actual gauge. Stine & Griffith's No. 1 Michaelis and others was dry and abandoned at 3,000 feet. World Oil Co.'s No. 1 University-C, located in Section 7, Block 20, University Land, was dry and abandoned at 2,199 feet.

Irion County

J. A. Starkweather's No. 1 Lindley, located 990 feet from south and 150 feet from east of Section 1,160½, H.&T.C. R.R. Survey, was dry and abandoned at 3,283 feet after encountering a hole full of salt water at 3,275-83 feet.

DEATH OF JAMES DEVLIN

BRADFORD, Pa., Mar. 29.—James Devlin, of Dallas City, a retired oil producer, age 90 years, dropped dead in a dentist's office in this city on Monday, March 24. Deceased is survived by his daughter, Mrs. Frank D. Korner and five sons, George and B. B. Devlin of Dallas City; John and Joseph of Bradford, and James of El Dorado, Kans.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 65)

Humble Oil & Ref. Co.'s No. 2-C University, 2,310 ft. N and 330 ft. W of SE cor., Sec. 40, Blk. 30, University Land ..... Drlg. 2,105 ft.

Warner-Quinlan Co.'s No. 8 University, 990 ft. S and 330 ft. W of NE cor. of SW. Sec. 39, Blk. 30, University Land ..... Shut down 2,975 ft.; top pay 2,894 ft.; 1,500 ft. oil in hole.

CROCKETT COUNTY

California Co.'s No. 2 Shannon, Lease No. 3, 258 ft. N and 2,997 ft. E of Sec. 42, T.C.R.R. Sur. ..... Drlg. 576 ft.

W. W. Donnelly's No. 1 Middle-Dugout, [illegible] D.&S.E.R.R. Sur. ..... 6,000,000 ft. gas 1,662 ft.; shut down 1,755 ft.

Lewis & Daniels' No. 1 Pecos River bed, 19 yds. S and 37° E of NW cor., Sec. 33, Blk. 1, I.&G.N. Sur. ..... Shut down 1,407 ft.

Magnolia Pet. Co.'s No. 1 Hoover, 2,310 ft. from N and 330 ft. from E of Sec. 12, Blk. 1, G.C.&S.F.R.R. Sur... Top salt 660 ft.; show gas 1,858-1,950 ft.; shut down 2,255 ft.

Trans-Texas Oil Co.'s No. 2 Shannon, 983 ft. from S and 1,873 ft. from E line of Sec. 42, T.C.R.R. Sur. ... Building rig.

CULBERSON COUNTY

Grisham & Hunter Oil Corp.'s No. 1 Seay, 330 ft. from S and W of Sec. 16, Blk. 59, Twp. 7, T.&P.R.R. Sur. ... Drlg. 3,435 ft.

Grisham & Hunter Corp.'s No. 1 Garren, 2,310 ft. from S and 330 ft. from E of Sec. 18, Blk. 89, P.S.L. Sur. ... Drlg. 310 ft., anhydrite and lime shells.

Hickey & Stiver's No. 1 C. O. Finley, 600 ft. N and 1,980 ft. W, Sec. 20, Blk. 82 ..... Small show oil 1,331 ft.; drlg. 2,877 ft.

Kornrumpf et al's No. 1 Garren, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land ..... Spudded and shut down.

West Coast Oil & Exploration Co.'s No. 1 McGregor, C NW, Sec. 14, Blk. 81 ..... Slight show oil 740 ft.; shut down 875 ft.; may abandon.

Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E, Sec. 1, Blk. 97, Public School Land ..... Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; oil show 2,528 ft.; hole full sulphur water; running 6-in. casing; shut down 3,508 ft.

ECTOR COUNTY

Cosden Oil Co.'s No. 1 Kloh & Rumsey, 990 ft. S and 330 ft. E NW cor., Sec. 17, Blk. 44, Twp. 3s, T.&P. Sur. ..... Drlg. 2,350 ft.

Cosden Oil Co.'s No. 2-A University, NE cor. S half NE, Sec. 1, Blk. 35, University Land ..... Drlg. 1,145 ft.

Cosden Oil Co.'s No. 2 University-B, 2,310 ft. S and 440 ft. W of NE cor. of Sec. 2, Blk. 35, University Land ..... Total depth 830 ft.; junked hole; will skid 22 ft. east.

C. P. Davis et al's No. 1 Hendricks, C SW Sec. 46, Blk. 42, Twp. 2s, T.&P.R.R. Sur. ..... Shut down 1,120 ft.

Gibson & Johnson's No. 1 Scharlauer, 990 ft. from N and E of Sec. 4, Blk. B-15, Public School Land ..... Drlg. 1,130 ft.

Gulf Prod. Co.'s No. 1 Kloh-G, 330 ft. N and 440 ft. E of SW cor., Sec. 5, Blk. 44, Twp. 3s, T.&P. Sur. ..... Top salt 1,105 ft.

Gulf Prod. Co.'s No. 1 State, 330 ft. S, 440 ft. W of SE cor. of S 160 ac. of Sec. 1, Blk. 35, University Land ..... Top lime 3,100 ft.

Gulf Prod. Co.'s No. 1 State-A, 330 ft. S, 440 ft. W of NE cor. of N half of S half, Sec. 2, Blk. 35, University Land ..... Drlg. 3,135 ft.

Humble Oil & Ref. Co.'s No. 2 Kloh-Rumsey-D, 2,310 ft. S and 440 ft. E of NW cor. of Sec. 7, Blk. 44, Twp. 3s, T.&P. Sur. ..... Drlg. 3,485 ft.

Humble et al's No. 3 Kloh-D, 2,325 ft. N and 440 ft. E of SW cor., Sec. 7, Blk. 44, Twp. 3s ..... Running 6⅝-in. casing 3,324 ft.

Humble et al's No. 4 Kloh-D, 322 ft. N and 440 ft. E of SW cor., Sec. 7, Blk 44, Twp. 3s ..... Drlg. 2,905 ft.

Humble Oil & Ref. Co.'s No. 5-D Kloh-Rumsey, 1,674 ft. S and 440 ft. E of NW cor., Sec. 7, Blk. 44, Twp. 3s, T.&P. Sur. ..... Drlg. 153 ft., red rock.

Humble Oil & Ref. Co.'s No. 6-D Kloh-Rumsey, 1,014 ft. S and 440 ft. E of NW cor., Sec. 7, Blk. 44, Twp. 3s, T.&P. Sur. ..... Drlg. 2,315 ft.

HumbleHumble Oil & Ref. Co.'s No. 7-D Kloh et al, 330 ft. from N and 440 ft. from W of Sec. 7, Twp. 3s, Blk. 44, T.&P. Sur. ..... Drlg. 1,320 ft.

Humble Oil & Ref. Co.'s No. 2 York, 990 ft. S and 440 ft. E of NW cor. of Sec. 16, Blk. 44, Twp. 3s, T.&P. Sur. ..... Top lime 3,130 ft.; top pay 3,614 ft.; 3,400 ft. oil in hole 3,660 ft.

Humble Oil & Ref. Co.'s No. 8-D Kloh, 986 ft. N and 440 ft. E of SW cor., Sec. 7, Blk. 44, Twp. 3s ..... Location.

Humble Oil & Ref. Co.'s No. 3 York, 1,650 ft. S and 440 ft. E of NW cor., Sec. 16, Blk. 44, Twp. 3s, T.&P. Sur. ... Drlg. 3,560 ft.
Humble et al's No. 4 York, 323 ft. S and 440 ft. E of NW cor., Sec. 16, Blk. 44, Twp. 3s ... Drlg. 2,015 ft.
Humble et al's No. 5 York, 2,334 ft. S and 440 ft. E of NW cor., Sec. 16, Blk. 44, Twp. 3s ... Drlg. 2,870 ft.
Humble et al's No. 6 York, 2,991 ft. S and 440 ft. E of NW cor., Sec. 16, Blk. 44, Twp. 3s ... Drlg. 3,040 ft.
Humble Oil & Ref. Co.'s No. 7 York, 1,650 ft. N and 440 ft. E of SW cor., Sec. 16, Blk. 44, Twp. 3s ... Location.
Independent Oil & Gas Co.'s No. 1 Eidson, 1,250 ft. S and 2,144 ft. E of NW cor., Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur. ... Shut down 795 ft.
H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G.M.M.Br.&A. Sur. ... Spudded and shut down 30 ft.
Landreth Prod. Corp.'s No. 1-A University, NE, Sec. 3, Blk. 35, 1100 ft. E of No. 1-T ... Spudding.
Landreth Prod. Corp.'s No. 2 University-S, 330 ft. S and 440 ft. W of NE cor. Sec. 2, Blk. 35, University Land ... Top salt 1,210 ft.; total depth 3,360 ft.; cem. 6⅝-in. casing.
T. P. Coal & Oil Co.'s No. 1 McKenzie, 1,650 ft. from S and 330 ft. from E of Sec. 28, Blk. 45, Twp. 2s, T.&P. Sur. ... Drlg. 100 ft.
R. R. Penn et al's No. 1 Goodman et al, 2,640 ft. N and 330 ft. W of SE cor. Sec. 27, Blk. 44, T.&P.R.R. Sur. ... Location.
Simms Oil Co. et al's No. 1 University (was Landreth Prod. Corp.), 2,310 ft. N, 440 ft. W SE cor., Sec. 1, Blk. 35, University Land ... Drlg. 2,235 ft.
Shell Pet. Corp.'s No. 1 Jones, Sec. 6, Blk. 44, Twp. 3s, T.&P.R.R. Sur. ... Location.
Skelly Oil Co. et al's No. 1 University-A, 990 ft. S and 440 ft. N of NE cor. Sec. 1, Blk. 35, University ... Drlg. 2,085 ft.
Skelly Oil Co.'s No. 2-A University, 330 ft. S and 440 ft. W of NE cor., Sec. 1, Blk. 35, University Land ... Drlg. 305 ft.
The Texas Company's No. 7 Connell, 2,310 ft. from S and 440 ft. from W. Sec. 1, Blk. B-16, Public School Land ... Location.

EL PASO COUNTY

Laytex's No. 1 Malone, 2,200 ft. SW and NW, Sec. 46, J. M. Day Sur. ... Shut down 1,481 ft.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlow, Sec. 60, V-8, J. C. Clift Sur. ... Shut down 3,000 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 Johnson, 440 ft. from N and 1,540 ft. from W of Sec. 3, Blk. R, Richardson Sur. ... Shut down 2,240 ft.
Cranfill & Reynolds' No. 2 Willingham, 330 ft. from N and E of NW. Sec. 199, B.B.B.&C.R.R. Sur. ... Drlg. 210 ft.

GAINES COUNTY

Humble Oil Ref. Co.'s No. 1 Carswell, 660 ft. S and E of NW cor. of Sec. 23, Blk. A-27, Public School Land ... Location.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 6, H.&G.N. Sur. ... Location.
Pandem Oil Corp.'s No. 1 Stokes, 2,310 ft. N and E of SW. Sec. 32, Blk. 5, G.H.&H.R.R. Sur. ... Plugging to abandon at total depth 3,018 ft.

GLASSCOCK COUNTY

California Co.'s No. 1 Baker, 2,310 ft. from S and 990 ft. from W. Sec. 23, Twp. 2s, Blk. 33, T.&P. Sur. ... Drlg. 1,566 ft.
California Co.'s No. 1 Jones, 330 ft. S from N and E lines, Sec. 25, Blk. 33, Twp. 2s, T.&P. Sur. ... Derrick.
Group No. 1 Oil Co. and Continental Oil Co.'s No. 1 Miller, 330 ft. S and 990 ft. E of NW cor. Sec. 162, Blk. 29, W.&N.W.R.R. Sur. ... Show oil 1,400-02 ft.; shut down 1,500 ft.; tested on swab for 26 hrs., all water, no oil.
Group No. 1 Oil and Continental Oil Co.'s No. 1 Phillips, 330 ft. S and 990 ft. E NW cor., Sec. 24, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ... Show oil 1,360 ft., 1,700 ft. and 1,800 ft.; total depth 2,312 ft.; swabbing 33 bbls. hourly.
F. H. E. Oil Co.'s No. 1 Cox, 330 ft. from S and E of SW Sec. 8, Blk. 33, Twp. 2s, T.&P. Sur. ... Coring 2,200 ft.
Kirby Pet. Co. et al's No. 2 Phillips, 990 ft. S and 2,310 ft. E of NW cor., Sec. 23, Blk. 33, Twp. 2s, T.&P. R.R. Sur. ... Location.
Kirby Pet. Co. et al's No. 3 Phillips, 1,650 ft. S and 2,310 ft. E of NW cor., Sec. 23, Blk. 33, Twp. 2s, T.&P. R.R. Sur. ... Location.
Shell Pet. Corp.'s No. 1 Phillips, 1,650 ft. S and 2,310 ft. W of NE cor., Sec. 23, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ... Location.
Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur. ... Show oil 970 ft.; drlg. 2,200 ft.
World Oil Co.'s No. 3-C McDowell, 2,310 ft. from S and W of NE cor., Sec. 21, Blk. 34, Twp. 2s, T.&C. Sur. ... Location.

HOWARD COUNTY

American Maracaibo Co.'s No. 4-A Settle, 1,040 ft. S and 330 ft. E of NW cor., Sec. 6, Blk. 32, Twp. 2s, T.&P. Sur. ... Total depth 2,260 ft.; top pay 2,177-2,260 ft.; pumped 100 bbls. oil, 300 bbls. water; may drill deeper.
California Co.'s No. 11 Roberts, Lease 2, 990 ft. N and 2,188 ft. W of SE cor., Sec. 137, Blk. 29, W.&N.W. R.R. Sur. ... Total depth 3,011 ft.; top pay 2,988 ft.; pumping 137 bbls. oil.
Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor., Sec. 129, Blk. 29, W.&N.W.R.R. Sur. ... Sulphur water 1,433-46 ft.; shut down 1,456 ft.
Cox et al's No. 1 Flowers, C NE, Sec. 42, Blk. 31, Twp. 1n, T.&P.R.R. Sur. ... Location.
McGinley-Sigler's No. 1 Hyman-C, 330 ft. N and 990 ft. W SE cor., Sec. 93, Blk. 29, W.&N.W.R.R. Sur. ... Location.
Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W, Sec. 45, Blk. 33 ... Shut down 2,325 ft., repairing engine.
Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ... Set 10-in. casing; shut down 261 ft.
Simms Oil Co.'s No. 2 Clay, 330 ft. from S, 2,310 ft. from W. Sec. 127, Blk. 29 ... Total depth 3,160 ft.; shot 90 qts. 2,400-60 ft.; 2,000 ft. oil in hole.

HUDSPETH COUNTY

California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor., Sec. 19, Blk. E ... Drlg. 4,086 ft.
Western States Oil Co.'s No. 1 Moore, C SE, Sec. 16, Blk. 71, Twp. 6, T.&P. Sur. ... Shut down 2,760 ft.
Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 ... Fishing 3,155 ft.

IRION COUNTY

Baker & Hodges et al's No. 1 Tankersley, 750 ft. from N and 170 ft. from W of Sec. 23, G.C.&S.F. Sur. ... Shut down 1,430 ft.
Banner Oil Co.'s No. 2 Nutt, 150 ft. from N and E lines W half, Su d. 5, Gonzales County School Land ... Location.
Beesley's No. 1 Sawyer Cattle Co., 1,320 ft. N and E of SW cor., Sec. 3,032, Blk. 24, H.&T.C.R.R. Sur. ... Water 1,705-10 ft.; more water 1,730-40 ft.; shut down 1,950 ft.
Brown & Fox's No. 2 Tankersley, Sec. 712, F. Willig Sur. ... Total depth 1,335 ft.; show oil 1,318 ft.; pumped 41 bbls. daily, 5 per cent water, 38.7 gravity.
Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W, Subd. 8 ... Shut down 1,105 ft.
Cromwell's No. 2 Nutt, 504 ft. from N and 1,162 ft. from W of Subd. 6, Gonzales County School Land ... Drlg. 885 ft.
Glenn et al's No. 1 Tankersley, NW cor. SW, Sec. 4, G.C.&S.F.R.R. Sur. ... Location.
Kingwood Oil Co. et al's No. 1 J. D. Suggs, SE NW SE, Sec. 19, Blk. 7, H.&T.C. Sur. ... Show gas 7,656 ft.; encountered 2,400 ft. sulphur water 7,818 ft.; plugged back to 6,700 ft.; cleaning out to shoot.
P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ... Show oil 7,931 ft.; splicing drill line 8,093 ft.
Straughan and Texannati Oil Co.'s No. 1 Nutt, 150 ft. N and E of NW NW, Blk. 6, Gonzales County School Land ... Location.

JONES COUNTY

Atkinson & Sandifer's No. 1 Byron, 300 ft. from S and E of Sec. 17, Edward Mills Sur. ... Cleaning out 2,550 ft.
Mid-Tex Oil Co.'s No. 1 King, 330 ft. E of river and 800 ft. S of N line, Subd. 1, Sec. 197, M. Bueno Sur. ... Topped sand 1,980 ft.; total depth 1,981 ft.; 800 ft. oil in hole in 12 hrs., gravity 36.0.
Phillips Pet. Co.'s No. 1 Coates, 900 ft. S and 330 ft. W of NE cor. W half of Sec. 17, Blk. 19, T.& .R.R. Sur. ... Drlg. 2,300 ft.
Shabeen et al's No. 1 King ... 800 ft. fluid in hole; shut down 2,204 ft.; top pay 2,061 ft.; cleaning out after shot.

KENT COUNTY

White & Smith's No. 1 Pursley estate, 1,320 ft. from E and 2,640 ft. from S of Sec. 8, Blk. H, H.&T.B. Sur. ... Shut down 273 ft.

KIMBLE COUNTY

McLean & Jamison's No. 1 Cannon, 1,940 ft. N and 300 ft. W of SE cor. Robert Cochran Sur. ... Fishing 1,650 ft.

LAMB COUNTY

Graham Oil & Gas Co.'s No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ... Shut down 4,428 ft.

LOVING COUNTY

California Co.'s No. 1 Allen, 330 ft. from SE and SW of Sec. 90, Blk. 1, W.&N.W. Sur. ... Drlg. 1,300 ft.
California Co.'s No. 1 Reagan & McElvain, 330 ft. SW of NE Line and 330 ft. SE of NW line, Sec. 84, Blk. 1, W.&N.W.R.R. Sur. ... Drlg. 520 ft.
Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ... Drlg. 1,750 ft.
Hadlock et al's No. 2 Russell, 1,650 ft. SW of NE line, 2,310 ft. NW of SE line, Sec. 80, Blk. 1, W.&N.W. R.R. Sur. ... Rigging up and shut down.
Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W. Sec. 91, Blk. 1, W.&N.W. Sur. ... Spudded 140 ft.; shut down.
Lockhart & Co.'s No. 3 Hubbard, 1,650 ft. from NE line, 330 ft. NW line of Sec. 83, Blk. 33, H.&T.C.R.R. Sur. ... Location.
Lockhart & Co.'s No. 5 Hubbard, 1,650 ft. SW of NE line and 330 ft. SE of NW line Sec. 83, Blk. 33, H.&T.C. Sur. ... Top pay 2,305-08 ft.; swabbed 33 bbls.; total depth 2,800 ft., anhydrite, standing; 8¼-in. casing cem. 2,325 ft.
Lockhart & Co.'s No. 1 Wheat-H, 990 ft. from NE and SE lines of Sec. 85, Blk. 33, T.&P. Sur. ... Shut down 5,078 ft.
Lockhart's No. 1 Wheat & Ramsey, 440 ft. from NE and NW of Sec. 83, Blk. 1, W.&N.W. Sur. ... Drlg. 500 ft.

LYNN COUNTY

Lubewell Oil Co.'s No. 1 May, 2,310 ft. S, 2,310 ft. W. Sec. 10, Blk. 7, E.L.R.R. Sur. ... Shut down 190 ft. for casing.
George McCamey's No. 1 Edwards, 165 ft. N and E, Sec. 5, Blk. 2, L.S.&W. Sur. ... Top salt 2,140 ft.; oil show 1,580-90 ft.; hole full sulphur water 4,730 ft.; set 6-in. casing 4,733 ft.; shut down 5,040 ft.

MENARD COUNTY

Cromwell & Duffey's No. 2 Winslow, 250 ft. S and E of NW cor. NE of NE, Sec. 36, J. H. Gibson Sur. ... Drlg. 2,540 ft.
I. C. Barnett's No. 2 Callan, Sec. 1, 1,050 ft. from S, 1,190 ft. W ... 2½ bbls. water hourly, 1,100,000 ft. gas 1,268 ft.
Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor., Sec. 132, E.L.R.R. Sur. ... Drlg. 1,475 ft.

MIDLAND COUNTY

Pure Oil Co.'s No. 1 Hutt, 2,310 ft. from N and 330 ft. from E of Sec. 14, Blk. 38, Twp. 4s, T.&P. Sur. ... Drlg. 360 ft.

MITCHELL COUNTY

Magnolia Petroleum Co.'s No. 7 Mary Foster, 330 ft. from N and W line of Sec. 17, Blk. 29, Twp. 1s, T.&P.R.R. Sur. ... Drlg. 1,840 ft.
Morrison et al's No. 2 Morrison, 2,390 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. R.R. Sur. ... Drlg. 810 ft.
Teas & Wheeler's No. 1 Radford, 1,320 ft. N and W of Sec. 1, Blk. 27, T.&P. Sur. ... Drlg. 4,925 ft.

PECOS COUNTY

Angelo Pet. Co. et al's No. 1 McKenzie, 480 ft. from N and 330 ft. E of CNL, Sec. 3, Blk. 604, G.C.&S.F. Sur. ... Fishing 1,945 ft.
Atlantic O. P. Co.'s No. 1 Shearer, 330 ft. from NW and SW, Sec. 107, Blk. 10, H.Y.N.R.R. Sur. ... Show oil and gas 1,052 ft. and 1,170 ft.; top pay 1,438 ft.; plugged back to 1,459 ft.; swabbing 70 bbls. oil, 50 per cent water.
Black et al's No. 1 Pecos Valley Oil Co., 1,520 ft. from SE and 1,120 ft. from SW of Sec. 34, Blk 3, H.&T.C. R.R. Sur. ... Location.
Cardinal Oil Co.'s No. 1 Tippett-Kirby, 330 ft. W and 1,350 ft. N from CSL, Sec. 40, Blk. 194, G.C.&S.F. R.R. Sur. ... Total depth 523 ft.; top pay 440 ft.
California Co.'s No. 1 Jasper Co. Realty Co., 165 ft. from NE line and 159 ft. from SE line of California Co.'s 160 acres, Sec. 21, Blk. 10, H.&G.N.R.R. Sur. ... Cellar.
Continental Oil Co.'s No. 1 Bennett, C S, Sec. 68, Blk. 10, H.&G.N.R.R. Sur. ... Location.
Cosby Prod. & Ref. Co.'s No. 1 Cordova, 330 ft. from N and E of S 320 ac., Sec. 11, Blk. 11, H.&G.N. Sur. ... Top salt 725 ft.; encountered sulphur water 1,878 ft.
Cosden Oil Co.'s No. 1 McDonald, 350 ft. from N and E of Sec. 1, H.E.&W.T. Sur. ... Flowing water 1,645 ft.; shut down 2,016 ft.
Cowboy Evans' No. 1 Pecos Valley, 1,307 ft. from SE line, 907 ft. from SW line to Sec. 36, Blk. 3, H.& T.C.R.R. Sur. ... Location.
Cromwell et al's No. 1 University, 1,980 ft. from S and 2,310 ft. from E. Sec. 16, Blk. 16 ... Drlg. 310 ft.
Dixie Oil Co.'s No. 1 Torborg, 150 ft. from S and W lines of E half, Sec. 539, A.&B. Sur. ... Shut down 290 ft.
Dixie Oil Co.'s No. 4 Torborg, 450 ft. from W and 150 ft. from S of E half, Sec. 539, A.&B. Sur. ... Location.
Fisher & Lowrie's No. 1 Webb, C, Sec. 3, Blk. 203, Tilman & Walters Sur. ... Location.
A. M. Griffith's No. 1 Ferrenbach et al, 2,112 ft. from W line, 1,320 ft. from S line, Sec. 9, Blk. 603, G.C.&S.F. Sur. ... Drlg. 2,840 ft.
Galt-Brown's No. 1 Thompson, 660 ft. from S and 1,100 ft. from E. Sec. 71, Blk. 194, G.C.&S.F. Sur. ... Top salt 730 ft.; drlg. 910 ft.
Hayes et al's No. 1 Lea, C NW of NE, Sec. 9, Blk. 106, T. & St.L. Sur. ... Location.
Hussman Oil Co.'s No. 1 Esters, 960 ft. from N and 300 ft. E. Sec. 83, Blk. OW, T.M.R.R. Sur. ... Shut down 1,675 ft.; 100 ft. sulphur water 1,661-75 ft.

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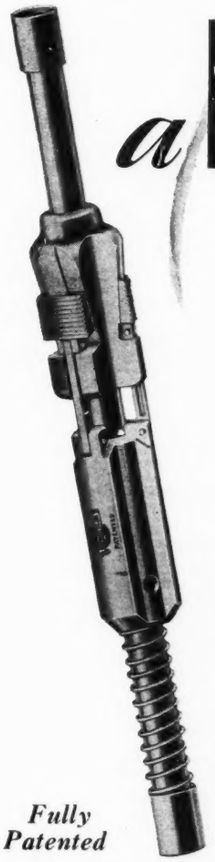

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GUIBERSON

BETTER BE SAFE THAN SORRY

Independent Oil & Gas Co.'s No. 1 Jasper County School Land, 1,160 ft. from SE line, 160 ft. from NE line, Sec. 21, Blk. 10, H.&G.N.R.R. Sur. ..... Location.

Landreth Prod. and Renshaw Bros.' No. 1-E University, 330 ft. N and W of SE cor. W half NE, Sec. 13, Blk. 18, University Land ..... 4,000,000 ft. gas; shut down 1,630 ft.; estimated 5,000,000 ft. gas 1,405 ft.

Landreth Prod. and Henshaw Bros.' No. 2-I University, 330 ft. S and W of NE, Sec. 24, Blk. 18, University Land ..... Cellar.

Martin A. Meyer et al's (formerly Mauch & Kroger) No. 1 Holmes, S half SW, Sec. 5, Blk. 178, T.C. Sur. .... Shut down 2,224 ft.; 5 bailers sulphur water hourly 2,215-24 ft.

Messenger et al's No. 1 Byrne, 2,130 ft. from NW line, 1,830 ft. from SW line, Sec. 54, Blk. 10, H.&G.N.R.R. Sur. ..... Drlg. 208 ft.

R. E. Moore's No. 1 Arnold, 1,320 ft. from S and 660 ft. from E lines of Sec. 18, Blk. 1, H.&T.C.R.R. Sur. .... Total depth 1,850 ft.; show gas 1,780 ft.; show oil 1,850 ft.; will run 6⅝-in.; shale.

J. R. Miller et al's No. 1 Bennett, 359 ft. W from CWL, Sec. 1, Blk. 119, G.C.&S.F. Sur. ..... Spudded and shut down.

J. D. O'Mara's No. 1 Bennett, Sec. 592, 1,460 ft. from S, 150 ft. from E, G.&C.S.F. Sur. ..... Shut down 1,000 ft.

J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. ..... Show oil 1,785 ft.; drlg. 1,940 ft.

Peren Oil Co.'s No. 2 Eaton, C of E of W, Sec. 27, Blk. 3, H.&T.C. Sur. ..... Shut down 135 ft.

R. W. Porpus et al's No. 1 State Land, 330 ft. S and W lines of NE, Sec. 28, Blk. OW, T.C.R.R. Sur. ..... Location.

M. M. Rowan's No. 1 University, NE, Sec. 25, Blk. 16 ... Total depth 2,490 ft.; plugged back 1,815 ft.; machine moved off.

Phillips Pet. Corp.'s No. 3 Monroe, 3,860 ft. from N and 660 ft. from E, Sec. 39, Blk. 194, G.C.&S.F. ..... Cellar.

Phillips Pet. Corp.'s No. 5 Ramsey, 330 ft. from N and 1,650 ft. from W of Sec. 17, Blk. 194 ..... Show oil and gas 1,115-35 ft., drlg. 1,515 ft.

Phillips Pet. Corp.'s No. 1 Shearer, 330 ft. from NE and SE lines of S, Sec. 99, Blk. 10, H.G.N.R.R. Sur... Spudding

Rector Oil Co.'s No. 1 Young, 330 ft. S and 1,650 ft. E of SW cor., Sec. 26, Blk. 9, H.&G.N. Sur., but in Sec. 4, Blk. 3, H.&T.C. Sur. ..... Top salt 635 ft.; shut down 663 ft.

Southern Crude Oil Pur. Co.'s No. 1 Eaton, 330 ft. from SE line, 1,650 ft. from SW line of Sec. 35, Blk. 3, H.T.C.R.R. Sur. ..... Drlg. 623 ft.

Southern Crude Oil Pur. Co.'s No. 2 Tippett-A, 150 ft. from N and 165 ft. from E lines of their "A" lease, Sec. 61, Blk. 194, G.C.&S.F.R.R. Sur. ..... Top pay 365 ft.; total depth 457 ft.; 150 ft. in oil.

Southern Crude Oil Pur. Co.'s No. 4 Tippett-A, 229 ft. S and 1,032 ft. W of most easterly NE cor. of their 75-ac. lease "A," Sec. 61, Blk. 194, G.C.&S.F.R.R. Sur. ..... Location.

Shell Pet. Corp.'s No. 2-B Smith, 4,006 ft. S and 330 ft. W of NE cor., Sec. 24, Blk. 194, G.C.&S.F.R.R. Sur. ..... Shut down 1,777 ft.; top pay 1,630 ft.; flowed 444 bbls. 24 hrs.

Shell Pet. Corp.'s No. 5 Smith-D, 990 ft. N and W of SE cor. of Sec. 24, Blk. 194, G.C.&S.F.R.R. Sur. ..... Drlg. 695 ft.

Shell Pet. Corp.'s No. 1 University-E, 330 ft. from S and W lines of NE, Sec. 31, Blk. 16, University Land ... Drlg. 620 ft.

Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur. ..... Shut down 802 ft.

Simms Pet. Co.'s No. 1 University, 1,650 ft. N and 330 ft. W of SE cor., Sec. 21, Blk. 19, University Land ... Drlg. 1,690 ft.

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The Texas Company's No. 1 Wright, 660 ft. S and E of NW cor., Sec. 9, Blk. 1, T.&S.L.L. Sur. ..... Running 12½-in. casing 500 ft.

Transcontinental Oil Co.'s No. 1 University, 1,980 ft. N and E of SW cor., Sec. 18, Blk. 18, University Land. Total depth 4,910 ft.

Transcontinental and Arkansas Fuel Oil Co.'s No. 2 Matthews, 1,660 ft. from E and 330 ft. from N line of Sec. 10, Sec. 10, Blk. 194, G.C.&S.F.R.R. Sur. ..... Top pay 1,472 ft.; preparing to run 6-in. casing 1,748 ft.

Transcontinental and Arkansas Fuel Oil Co.'s No. 3 Matthews (Smith), 330 ft. from S, 1,960 ft. from E of NE, Sec. 10, Blk. 194, G.C.&S.F. Sur. ..... Topped lime 1,414 ft.; shut down 1,531 ft.; top pay 1,464 ft., flowed 40 bbls. in 24 hrs.

Transcontinental and Arkansas Fuel Oil Co.'s No. 1-A Smith, 2,310 ft. from N and 1,290 ft. from E of Sec. 11, Blk. 194, G.C.&S.F. Sur. ..... Total depth 1,520 ft.; 6,000,000 ft. gas.

Transcontinental Oil Co. et al's No. 2 Sellman, 990 ft. from N and 2,310 ft. from E of Sec. 8, Blk. Z, T.C. Sur. ..... Shut down 1,725 ft.; 1,490 ft. sulphur water 1,675-1,710 ft.

Trees Oil Co.'s No. 3 Trees, 330 ft. from S and W of Sec. 90, Blk. T, H.&G.N. Sur. ..... Drlg. 1,922 ft.

W. F. Walsh et al's No. 1 Scharbaur Cattle Co., 330 ft. S and 950 ft. E from C, Sec. 16, Blk. 136, T.&St. R.R. Sur. ..... Drlg. 200 ft.

Walsh et al's No. 1 Shearer, 330 ft. from NE and NW of E, Sec. 89, Blk. 10, H.&G.N.R.R. Sur. ..... Location.

PRESIDIO COUNTY

L. C. Brite's No. 4 Brite, 271 ft. from N and 1,188 ft. from E lines of Sec. 245, Blk. 4 ..... Shut down 570 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 250 ft. W of NE cor., Sec. 1, Blk. 2, University Land.. Top pay 2,903 ft.; 1,000 ft. fluid in hole; top pay 6,807 ft.; shut down 8,430 ft.; hole in 2° off at 8,340 ft.; cleaning out.

Hagan & Emeh and Amerada's No. 1 Sawyer Cattle Co., 330 ft. from S and 990 ft. from E lines of Sec. 125, Blk. 1, T.&P. Sur. ..... Rigging up.

Big Lake Oil Co.'s No. 4-C University, 1,120 ft. from N and 1,096 ft. from E of Sec. 1, Blk. 2 ..... Showing oil and gas at 8,220 ft.; total depth 8,220 ft.; flowed an average 131 bbls. daily.

Texon Oil & Land Co.'s No. 2-B University, 4,655 ft. from S. 250 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 6,545 ft.

Texon Oil & Land Co.'s No. 3-B University, 2,240 ft. from S, 920 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 4,979 ft.

REEVES COUNTY

Exploration Co.'s No. 1A. A. Kinney, 1,500 ft. W of NE cor., Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Shut down 2,900 ft.

H. T. Hansford's No. 1 Williams, 150 ft. from S and W. Sec. 17, Blk. 6, H.&G.N. Sur. ..... Shut down 380 ft.

Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W. Sec. 16, Blk. 59 ..... Shut down 1,827 ft.

Southern Crude Oil Pur. Co.'s No. 1 Kloh-Ramsey, 2,310 ft. N and W SE cor., Sec. 23, Blk. 51 ..... Show oil 3,410-20 ft.; shut down 3,575 ft.

David R. Thompson's No. 1 A. A. Eddins, Sec. 9, Blk. C-1 ..... Shut down 5,658 ft.

RUNNELS COUNTY

Gibson & Johnson's No. 1 Johnson, 2,310 ft. N and 1,650 ft. W of SE cor., Sec. 150, E.T.R.R. Sur. ..... Running 12½-in. casing; total depth 1,480 ft.

Gibson & Johnson's No. 2 Serratt, 2,310 ft. from S and 1,650 ft. from E of Sec. 150, E.T.R.R. Sur. ..... Derrick.

George W. Boyce's No. 1 Lang, 2,310 ft. N, 6,900 ft. E. Sec. 262 ..... Show oil 2,028 ft.; shut down 2,504 ft.

McLean's No. 1 Clayton, 150 ft. from N line, 270 ft. from W line of Sec. 133 ..... Shut down 1,185 ft.; probably be abandoned.

SCHLEICHER COUNTY

Delmar Oil Co.'s No. 1 O'Harrow, C of NW, Sec. 58, Blk. 1, G.H.&S.A.R.R. Sur. ..... Underreaming 8¼-in. casing; total depth 2,635 ft.

Interstate's No 1 Whitten, 1,320 ft. from N and W, Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Total depth 6,100 ft.; plugged back to 6,020 ft.; fishing baller.

Teas & Grant's No. 1 Allison, 1,320 ft. N and E of SW cor. of Sec. 37, Blk. K, G.H.&S.A.R.R. Sur. ..... Building rig.

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. Sur. ..... Underreaming 8¼-in. casing; drlg.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 330 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. ..... Shut down 1,732 ft.; preparing to drill deeper.

Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S. 300 ft. from E, Sec. 12, Blk. 3, E.&T.C.R.R. Sur. ..... Fishing 4,080 ft.

Maxwell & Lou Ladd's No. 1 Koonsman, W half, Sec. 216, Blk. 2, H.&T.C.R.R. Sur. ..... Shut down 160 ft.

I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C.R.R. Sur. ..... Spudded and shut down 300 ft.

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Fishing 6⅝-in. casing 4,331 ft.

Magnolia Pet. Co.'s No. 1 More, 1,320 ft. from S and W, Sec. 379, Blk. 97 ..... Top salt 750 ft.; encountered 500,000 ft. gas 1,510 ft.; oil show 2,215 ft.; drlg. 4,080 ft.

Transcontinental Oil Co.'s No. 1 Peckham, 330 ft. from S and W of R. N. Miller Sur. ..... Fishing tools 525 ft.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Willson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W ..... Location.

TAYLOR COUNTY

Condor Pet. Co.'s No. 1 Stoker, C of NW, Sec. 220, Blk. 64, H.T.C.R.R. Sur. ..... Drlg. 2,204 ft.

A. H. Gibson et al's No. 1 Cody, 888 ft. N and 160 ft. W of SE cor., Lot 2, Sec. 18, Guadalupe County School Land ..... Drlg. 1,460 ft.

Gibson & Johnson's No. 1 Bingham, 330 ft. N and E of SW cor. their 270.8-ac. tract, Sec. 31, Guadalupe County School Land ..... Drlg. 1,200 ft.

John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor., Sec. 46, Lunatic Asylum Land ..... Show oil 4,917 ft.; shut down 5,625 ft.

Hucony Oil Co. et al's No. 1 Richie, C SE Sec. 10, Blk. 9, S.P.R.R. Sur. ..... Location.

Mid-Continent Pet. Corp.'s No. 1 Lindsey, 239 ft. N and 219 ft. E of SW cor., Subd. 22, Guadalupe County School Land ..... Drlg. 400 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW, Sec. 155, Blk. D, M.-K.-T.R.R. Sur. ..... Drlg. 1,450 ft.

Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,150 ft.

Miller Bros.' No. 1 Allison & Burke, C NW cor., Sec. 10, Blk. 176, T.&P. Sur. ..... Shut down 120 ft.

Mrs. J. B. McPhee's No. 1 Sam Belt, C, Sec. 78, Blk. D-7, E.L.R.R. Sur. ..... Shut down 880 ft.; moved off machine.

Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F.R.R. Sur. ..... Drlg. 2,950 ft.

Woodley & Jones' No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 640 ft.

TERRY COUNTY

Atlantic et al's No. 1 Carlisle, 990 ft. from S and E of Sec. 58, Blk. E, E.L.&R.R. Sur. — Drlg. 2,245 ft.

Kingsland Oil Prod. Co.'s No. 1 Brownfield, C NW SW SW, Sec. 7, Blk. 1-A, E.L.R.R. Sur. — Fishing baller 5,080 ft.

TOM GREEN COUNTY

Cannon et al's No. 1 Rust, 990 ft. S, 990 ft. W of NE cor. of Sec. 745 — Location.

Costen Oil Co.'s No. 1 William Anson, 2,310 ft. S, 330 ft. W of NE cor., Sec. 20, Blk. 24, H.T.C.R.R. Sur. — Location.

Ellis et al's No. 1 Lewis, 450 ft. S and 150 ft. E of SE cor. of J.W. Sur. in Albert Black Sur., Sec. 75 — Show oil 428-43 ft.; shot 20 qts 428-40 ft.; no results.

Fitzgerald & Taliaferro's No. 1 Bennett, C SW, Sec. 1,628, E. H. Ringer Sur. — Plugged back to 2,405 ft. to straighten hole; shut down 2,447 ft.

Phillips Pet. Corp.'s No. 1 Gulden, 1,250 ft. from N and 1,583 ft. W of Sec. 77, James Webb Sur. — Fishing 390 ft.

E. W. Wiley et al's No. 1 Meier, 200 ft. from E, 110 ft. from N, Sec. 6, Blind Asylum Land — Show oil 418-20 ft.; total depth 620 ft.; underreaming 6⅝-in. casing.

UPTON COUNTY

Cordova Union Land Co.'s No. 1 fee, 330 ft. from S and E line of Sec. 1, Blk. 1, M.-K.-T.R.R. Sur. — Location.

Eppenauer Drlg. Co.'s No. 1 Chaney, 2,310 ft. from N and 330 ft. from W of Sec. 18, Blk. 3, M.-K.-T. Sur. — Drlg. 1,650 ft.

Gulf Prod. Co.'s No. 3-B Hughes, 160 ft. N and 161 ft. W of most southely SE cor. of their 200-ac. lease "B" out of Wm. Teer Sur. — Rig.

Pure Oil Co.'s No. 3 Hughes, 150 ft. S and 767 ft. E of NW of their 300 ac., Sec. 4, Wm. Teer Sur. — Partly rigged up; shut down.

T. P. Coal & Oil Co.'s No. 1 Belcher, 1,320 ft. from N and 2,310 ft. from W line, Sec. 10, Blk. 4½, G.C.& S.F.R.R. Sur. — Top salt 1,310 ft.; 2,200 ft. water in hole 3,755 ft.

VAL VERDE COUNTY

A. Bluhm's No. 1 Yoas, 1,760 ft. N, 600 ft. W of SE cor., Sec. 31, Blk. 3, I.&G.N. Sur. — Machine on ground.

Independent Operators' No. 1 Whithead, SE SE, Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. — Shut down 4,850 ft.

O. O. Owen's No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. — Gas sand 2,491-2,520 ft.; tested 125-700 ft. gas; shut down 5,727 ft.

Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 33, Blk. D-8, E.L.&R.R. Sur. — Show oil 1,525 ft.; drlg. 2,600 ft.

Valvert Oil Corp.'s No. 1 Bassett, C NE, Sec. 47, Blk. Y. — Shut down 4,009 ft.

WARD COUNTY

Alpine Oil & Gas Co.'s No. 1 Dakan, 228 ft. from NE and 150 ft. from SE line, Tract 8, Sec. 11, Blk. 5, H.&T.C. Sur. — 1,000 ft. oil in hole; top pay 2,148 ft.; total depth 2,210 ft.; shot 90 qts.; to pump.

Atlantic and Dorr's No. 1 Costley, 1,722 ft. SE of NW line and 990 ft. SW of NE line, J. W. Howe Sur. No. 2 — Cleaning out 300 ft. off bottom; total depth 2,603 ft.; 1,000,000 ft. gas 2,602-03 ft.

Atlantic and Delmar's No. 7 Hayzlett, 1,650 ft. from NE and NW of Sec. 17, Blk. 5 — Location.

Dearborn et al's No. 1 Boogher, 1,375 ft. NE and 785 ft. SE of N cor., Sec. 7, Blk. 32, but in Sec. 11, Blk. 5, H.&T.C.R.R. Sur. — Location.

Gulf Prod. Co.'s No. 3 Hutchins, 2,310 ft. from N and 330 ft. from W, Sec. 1, Blk. F, G.M.M.B.&A. Sur. — Top salt 1,035 ft.; top brown lime 2,310 ft.; increase in gas 2,608-10 ft.; show oil 2,685 ft.; flowed 155 bbls. oil, total depth 3,102 ft.

Gulf Prod. Co.'s N. 7 O'Brien, 320 ft. S and W, Sec. 22, Blk. F, G.M.M.B.&A. Sur. — Hole full sulphur water 3,408 ft.; slopped over casing; total depth 3,566 ft.; plugged back to 3,025 ft.; preparing to test; swedging 8¼-in. casing 2,280 ft.

Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW, Sec. 18, Blk. 5, H.&T.C. Sur. — Show gas 1,960-70 ft.; filling up with sulphur water 2,520-27 ft.; salt water 2,545 ft.; plugged back to 2,477 ft.

R. F. Owens' No. 1 Johnson, 100 ft. from NE and 1,100 ft. from SE of Sec. 8, Blk. 33, H.&T.C.R.R. Sur. — Spudded and shut down.

Tex-Oil Prod. Co.'s No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 152, Blk. 34, H.&T.C.R.R. Sur. — Show gas 2,806-09 ft.; shot 30 qts. 3,245-75 ft.; shot 120 qts. from 3,240-75 ft.; drlg. 4,525 ft.

Penn and Atlantic's No. 2 Bennet, 2,310 ft. S line, 1,650 ft. W line, Sec. 16, Blk. 34, H.&T.C.R.R. Sur. — Top pay 2,347 ft.; total depth 2,630 ft.; averaging 25 bbls. daily.

Richardson et al's No. 1 O'Brien et al, 332 ft. from N and 360 ft. from W, Sec. 5, Blk. F, G.M.M.B.&A. Sur. — Top salt 1,230 ft.; drlg. 2,526 ft.

Shell Pet. Corp.'s No. 1 Owens, lcated NE cor. of Sec. 16, Blk. 15, H.&T.C.R.R. Sur. — Top pay 2,886-93 ft.; increase at 2,909 ft. and 3,023-32 ft.; shot 90 quarts from 2,473-93 ft.; increase in oil 3,022-32 ft.; averaging 37 bbls. day; drlg. 4,311 ft.

Shipley et al's No. 4 Hayzlett, 2,050 ft. NW of SE and 2,420 ft. NE of SW line of Sec. 17, Blk. 5, H.&T.C. R.R. Sur. — Top salt 720 ft.; drlg. 2,875 ft.

Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5 — Standard rig.

Shipley et al's No. 1 Monroe, 330 ft. SE SW, Sec. 3, Blk. 1 — Shut down 385 ft.

J. E. Smith's No. 1 Clement, 152 ft. SW of NE line and 153 ft. SE of NW line, Lot 7, Sec. 7, Blk. 32, H.&T.C.R.R. Sur. — Shut down 560 ft.

Southern Crude Oil Pur. Co.'s No. 1 Harris, 1,458 ft. from N and 1,406 ft. from E of Sec. 30, Blk. B-19 — Shut down 2,615 ft.

Sturm & Paine's No. 1 Cummins, 748 ft. from NE and 155 ft. from NW of Sec. 7, Blk. 32, H.&T.C.R.R. Sur. — Shut down 2,350 ft.; show oil and gas 2,170 ft.

Sun Oil Co.'s No. 2 Sealy, 330 ft. from N and E of Sec. 88, Blk. F, G.M.M.B.&A. Sur. — Shut down 2,555 ft.; salt water 2,445-58 ft.

WINKLER COUNTY

A. W. Phillips' No. 2 Brown et al, 2,000 ft. S and W of NE, Sec. 4, Blk. B-5, Public School Land — Top salt 1,300 ft.; shut down 2,832 ft.; show oil 2,775-85 ft.

Cinderella Syndicate's No. 1 Hendricks, 330 ft. N, 1,650 ft. W, Sec. 42, Blk. 26, Public School Land — Total depth 150 ft.; rig.

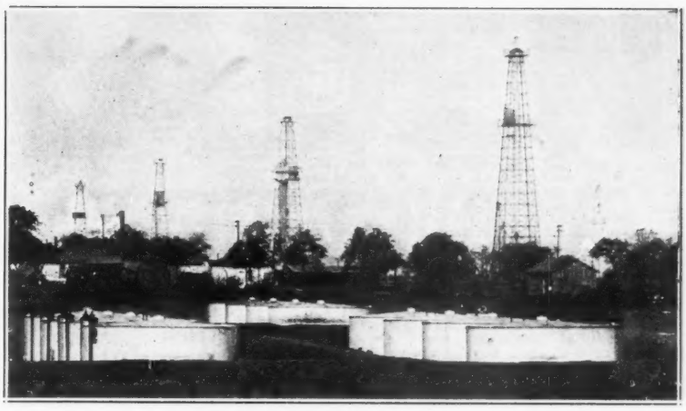
Humble Oil & Ref. Co.'s No. 3 Wahon-B, 2,310 ft. S and W of NE cor., Sec. 47, Blk. 26, School Land — Drlg. 2,564 ft.

Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 — Top brown lime 2,510 ft.; shut down 3,630 ft.

Shell and The Texas Company's No. 1-B Cowden, 660 ft. from S and W of Sec. 39, Blk. B-5, Public School Land — Drlg. 2,338 ft.

Shell et al's No. 8 Scarborough, 1,020 ft. from N and 1,650 ft. from E of Sec. 2, Blk. 77, Public School Land — Location.

Sun Oil Co.'s No. 1 Sealy, 2,310 ft. N line, 330 ft. from W line, Sec. 52, Blk. F, C.M.M.B.&A. Sur. — Shut down 3,275 ft.



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MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY ALONE

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 66)

Baldridge & Lilley's No. 1 Melton, 330 ft. N and W, E½, SE, Sec. 95, Blk. B-2, H.&G.N.R.R. Sur. ..... Rig.

Camel Oil Co.'s No. 2-B Harrah, 330 ft. N and E, Sec. 150, Blk. 3, I.&G.N.R.R. Sur. ..... Pulling 8¼-in. csg; T.D. 2,450 ft.

Cockrell-McIlroy Oil Co.'s No. 1 Castleberry, 330 ft. S and E, Sec. 126, Blk. 3, I.&G.N. Sur. ..... Rigging up.

Constantine et als' No. 1 Crews, 330 ft. S and W, NE cor. SW, Sec. 20, Blk. 30, H.&G.N.R.R. Sur. ..... Shot 130 qts. 2,630-50 ft; drlg. 2,792 ft.

Danciger Ref. and Champlin Ref. Co.'s No. 4 Cook-Faulkner, 330 ft. S, 1,146 ft. W, NE cor. E 120 ac., W 210 ac., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ..... T.D. 2,640 ft; cmtng. 8¼-in. csg.

Danciger Ref. and Champlin Ref. Co.'s No. 5 Cook-Faulkner, 330 ft. S, 706 ft. W, NE cor. E 120 ac., W 210 ac., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ..... T.D. 2,630 ft; cmtng. 8¼-in. csg.

Danciger et als' No. 11 Jackson, 330 ft. S, 1,320 ft. W, NE cor. NW, Sec. 88, Blk. B-2, H.&G.N. Sur. ..... 700 ft. oil in hole; T.P. 2,906 ft; T.D. 3,025 ft; C.O; 175 bbls. oil daily.

Danciger O. & R. Co.'s No. 5 Morse, 330 ft. N and E, SW SW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. .... S.D. 2,505 ft.

Danciger O. & R. Co.'s No. 1 Shaw, 330 ft. S, 286 ft. E of E 39½ ac., NW, Sec. 5, Blk. 1, A.C.H.&B. Sur. .. T.D. 2,588 ft.

Danciger O. & R. Co.'s No. 1 Williams, 330 ft. N, 330 ft. E, S¼ NW ..... Estimated 15,000,000 ft. gas 2,610-70 ft.; S.D. 2,720 ft.

Dixon Creek Oil Co.'s No. 1 Harrah, 330 ft. ea. way NW cor. SE NE, Sec. 150, Blk. 3, I.&G.N.R.R. Sur. T.P. 3,145 ft; T.D. 3,227 ft; 1,500 ft. oil in hole.

Dunlop's No. 4 Morse, 330 ft. N and E, SW cor. SW, Sec. 17, Blk. A-9, H.&G.N.R.R. Sur. ..... T.D. 2,431 ft.

Empire G. & F. Co.'s No. 1-B Archer, 330 ft. ea. way of SW cor. SW, Sec. 139, Blk. 3, I.&G.N. Sur. ..... Moving in tools.

Empire G. & F. Co.'s No. 1 Meer-B, 330 ft. S line, 990 ft. W line, SW, Sec. 106, Blk. 3, I.&G.N.R.R. Sur. Drlg. 810 ft.

Empire G. & F. Co.'s No. 1 Shields, 330 ft. ea. way out of SE cor. NE, Sec. 151, Blk. 3, I.&G.N.R.R. Sur. ..... Rigging up.

Follett Pet. Corp.'s No. 1 Hood, 330 ft. S and W of W 80 ac., SW, Sec. 32, Blk. 3, H.&G.N.R.R. Sur. ..... Drlg. 755 ft.

Gardner Bros. and Collins' No. 2 Saunders, 955 ft. S, 330 ft. E of W 68 ac., E½, J. G. Eustice Sur. ..... Location.

Gralliup et als' No. 1 Morse, 330 ft. ea. way, NE cor. SE, Sec. 3, Blk. 26, H.&G.N.R.R. Sur. ..... S.D. 2,105 ft.

Gulf Prod. Co.'s No. 1 Bowers, 967 ft. N and E, SW cor. SE, Sec. 63, Blk. B-2, H.&G.N.R.R. Sur. ..... S.D. 2,650 ft.

Gulf Prod. Co.'s No. 2 Combs et al, 990 ft. N, 330 ft. W, SE cor., Sec. 38, Blk. 3, I.&G.N.R.R. Sur. ..... Location.

Haymer O. & G. Co.'s No. 1 Morse, 330 ft. ea way out of SE cor. E½ SE, Sec. 45, Blk. A-9, H.&G.N. Sur. U.R. 6⅝-in. csg. 2,750 ft.

Humble O. & R. Co.'s No. 1 Combs-Worley, 330 ft. S and W, N½ SE, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. ..... S.G. 2,340-45 ft., and 2,420 ft; T. D.2,900 ft; T.P. 2,827 ft; flowing 1,100 bbls. per day; 22,000,-000 ft. gas.

Humble O. & R. Co.'s No. 2 Combs-Worley, 240 ft. W line, 330 ft. N line, N½ SE, Sec. 36, Blk. 3, I.&G. N.R.R. Sur. ..... Cellar.

Lenix et als' No. 1 Bradford, 330 ft. N and E, W½ SE, Sec. 118, Blk. B-2, H.&G.N.R.R. Sur. ..... T.D. 390 ft.

Lyon et als' No. 1-A Morse, 330 ft. S and W, NW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ..... Rig.

Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W cor. SE, Sec. 200, Blk. B-2, H.&T.N. Sur. ..... Spudded and S.D.

Magnolia Pet. Co.'s No. 4 Harrah, 330 ft. ea. way, SW cor. NW, Sec. 150, Blk. 3, I.&G.N.R.R. Sur. ..... T.D. 3,250 ft; 1,700 ft. oil in hole; T.P. 3,168 ft; swbd. 60 bbls. oil first 10 hrs.

Magnolia Pet. Co.'s No. 1 Cubine, 330 ft. N and W, NE, Sec. 36, Blk. 25, H.&G.N.R.R. Sur. ..... Drlg. 1,970 ft.

Magnolia Pet. Co.'s No. 5 Magnolia, 990 ft. N, 330 ft. E, SW cor., Sec. 14, Blk. 3, I.&G.N.R.R. Sur. ..... Rigging up.

Magnolia Pet. Co.'s No. 5 Wright, 330 ft. N, 752 ft. W, SE cor. S½ SW, Sec. 13, Blk. 3, I.&G.N.R.R. Sur. .. Cmtd. 8¼-in. csg; T.D. 2,610 ft.

McAuley et als' No. 4 Morse, 330 ft. N and W, SE cor. NE, Sec. 2, Blk. 26, H.&G.N.R.R. Sur. ..... Rig.

McIlroy Oil Co.'s No. 1 Vallmert, 330 ft. ea. way out of SE cor. NW, Sec. 140, Blk. 3, I.&G.N. Sur. ..... Rig.

Mid-Continent Pet. Corp.'s No. 1 Laugham, 330 ft. S and W, W 231½ ac., N 310½ ac., Sec. 1, Blk. B-2, H.&G.N. Sur. ..... Drlg. 1,193 ft.

Operators Royalty Co.'s No. 1 Eddington, 330 ft. ea. way, NE cor. NW, Sec. 34, Blk. B-2, H.&G.N.R.R. Sur. ..... S.G. 2,655-93 ft; T.P. 2,937 ft; T. D. 3,023 ft; spraying 50 bbls. per day.

Oil Operators' No. 1 Bowers, 330 ft. N, 330 ft. E, Sec. 93, Blk. B-2, H.&G.N. Sur. ..... Show oil and gas 2,400-17 ft.; S.O. 3,036-55 ft.; first gas 2,483 ft. increase at 2,500 ft., 2,544 ft. and 2,950 ft.; S.D. 3,090 ft.

Panhandle Ref. Co.'s No. 4 Saunders, 990 ft. N and 330 ft. E, SW cor. E½ NE, Sec. 3, Blk. 1, A.C. H.&B. Sur. ..... S.D. 1,600 ft.

Prairie O. & G. Co.'s No. 2 Laugham, 330 ft. S and E, NW cor., W 230.3 ac., of S 310.5 ac., Sec. 1, Blk. B-2, H.&G.N. Sur. ..... Drlg. 400 ft.

Prairie O. & G. Co.'s No. 1 Worley, 330 ft. ea. way out of NW cor. NW, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. .. Rigging up.

Prairie O. & G. Co.'s No. 2 Worley, 330 ft. ea. way out of NE cor. NW, Sec. 36, Blk. 3, I.&G.N. Sur. ..... Rigging up.

Prairie O. & G. Co.'s No. 3 Worley, 330 ft. ea. way out of SE cor. NW, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. .. Building rig.

Phillips Pet. Co.'s No. 1 Wright-Wood, 330 ft. N, 990 ft. E, SW cor. N½ SW, Sec. 13, Blk. 3, I.&G.N.R. R. Sur. ..... Drlg. 2,403 ft.

Phillips Pet. Co.'s No. 2 Wright-Wood, 330 ft. N, 990 ft. W, SE cor. N½ SW, Sec. 13, Blk. 3, I.&G.N. Sur. Drlg. 2,250 ft.

Phillips Pet. Co.'s No. 1 Combs-Worley (J. Fox), 330 ft. ea. way out of NW cor. NE, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 900 ft.

Prairie O. & G. Co.'s No. 1 Worley et al, 330 ft. ea. way out of NW cor. NW, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. ..... Rigging up.

Prairie O. & G. Co.'s No. 2 Worley et al, 330 ft. ea. way out of NE cor. NW, Sec. 36, Blk. 3, I.&G.N. R.R. Sur. ..... Rigging up.

Reynolds et als' No. 1 Webb, 330 ft. N, 380 ft. E. NW, Sec. 60, Blk. 25, H.&G.N.R.R. Sur. ..... Drlg. 1,430 ft.

Rieger & Steckoll's No. 1 Bohr, 330 ft. S and E, Sec. 37, Blk. B-3, H.&G.N. Sur. ..... Drlg. 3,505 ft.

St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor., Sec. 35, W. R. Lee Sur. ..... Spudded and S.D.

Stover and Shell's No. 1 Saunders, 990 ft. N 330 ft. E, N 100 ac. of W 149 ac., Sec. 3, B.&B. Sur. ..... 2,000,000 ft. gas 2,670-75 ft; T.D. 2,956 ft; shot 60 qts; no results; C.O.

Sun Oil Co.'s No. 1 Combs-Worley, 330 ft. ea. way, SW cor. SE, Sec. 35, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,775 ft.

The Texas Co.'s No. 1 Bell, 2,310 ft. N, 2,640 ft. W, Sec. 133, Blk. B-2, H.&G.N.R.R. Sur. ..... 1,500,000 ft. gas 2,800-2,910 ft. drlg. 3,580 ft.

The Texas Co.'s No. 15 Saunders, 330 ft. N and W, SE cor. W½ SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. .... S.D. 2,610 ft.

The Texas Co.'s No. 1 Wright, 330 ft. S and W, SE. Sec. 13, Blk. 3, I.&G.N.R.R. Sur. ..... T.D. 2,622 ft.

Travis & Reiger's No. 1 Mackie, 330 ft. N and E, Sec. 114, Blk. B-2, H.&G.N.R.R. Sur. ..... 16,000,000 ft. gas; T.P. 2,685 ft.; S.D. 3,343 ft.

Vulcan O. & G. Co.'s No. 1 Carpenter, 330 ft. N and W, W 80 ac., NW, Sec. 25, Blk. 25, H.&G.N.R.R. Sur. ..... U.R. 8¼-in. csg. 1,570 ft.

Wilcox-Pampa Oil Co.'s No. 13 Combs-Worley, 330 ft. ea. way out of NE cor. E½, Sec. 37, Blk. 3, I.&G. N. Sur. ..... Drlg. 1,745 ft.

Wilson et als' No. 1 Heaston, 330 ft. S and W, Sec. 160, Blk. B-2, H.&G.N.R.R. Sur. ..... S.D. 1,025 ft.

Wright Wilson, trustee's No. 1 Chapman, 175 ft. S and E lines, N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. .... S.O. 2,685 ft.; S.D. 2,693 ft.

HARTLEY COUNTY

Dana O. & G. Co.'s No. 1 Fritz, C NE, Sec. 81, Blk. 44, H.&T.C.R.R. Sur. ..... S.D. 3,080 ft.

HUTCHINSON COUNTY

Alamosa Oil Co.'s No. 4 Sanford, 310 ft. S, 320 ft. W, NE cor. N 160 ac., S 240 ac., Sec. 85, Blk. 46, H. &T.C. Sur. ..... S.O. and wtr. 3,010-11 ft; S.D. 3,-095 ft.

Alexander et als' No. 1 Johnson, 1,709 ft. E, 330 ft. N, N 80 ac., E½, E. T. Tomlinson Sur. ..... Drlg. 2,305 ft.

Continental Oil Co.'s No. 1 Johnson-E, 330 ft. N and E, SW cor. SE, Sec. 5, Blk. I, B.&B. Sur. ..... Drlg. 2,600 ft.

Danciger O. & R. Co.'s No. 1 Cheatham, 330 ft. N and E, SW SE, Sec. 38, Blk. Y, A.&B. Sur. ..... S.D. 1,998 ft.

Danciger O. & R. Co.'s No. 3 Moore, 330 ft. S and E, NW W½ SE, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. .... 1,000 ft. oil in hole; T.P. 3,003-20 ft; S.D. 3,030 ft.

Danciger O. & G. Co.'s No. 4 Moore, 330 ft. N and E, SW cor. W½ SE, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. Rigging up standard tools; T.D. 2,825 ft.

Dixon Creek Oil Co.'s No. 1 Cheatham, 990 ft. E, 330 ft. S, N½ SE, Sec. 38, Blk. Y ..... Drlg. 2,610 ft.

Dixon Creek Oil Co.'s No. 2 Cheatham, 330 ft. N, 1,650 ft. W, SE cor. N½ SE, Sec. 38, Blk. Y ..... U.R. 10-in. csg. 1,998 ft.

Dixon Creek Oil Co.'s No. 1 Johnson Bros., 50 ft. S, 330 ft. W, NE cor. E 80 ac., J. Gammon Sur. ..... Drlg. 2,310 ft.

Gulf Prod. Co.'s No. 1 W. E. Herring, 1,320 ft. N, 1,-395 ft. E, SW cor., Sec. 5, Blk. J, H.&G.N. Sur. .... S.D. 2,650 ft.

Gulf Prod. Co.'s No. 1 Herring-A, 990 ft. S, 990 ft. W. NE cor., George Bazon Sur. ..... S.D. 2,668 ft.

Huey et als' No. 3 Smith et al, 330 ft. N, 660 ft. W. S 40 ac., E 160 ac., SE, Sec. 12, Blk. Y ..... Drlg. by tools 2,702 ft.

Midwest Explin. Co.'s No. 1-B Garner et al, 330 ft. N, 990 ft. W, Sec. 124, Blk. 4, I.&G.N.R.R. Sur. .... Location.

Phillips Pet. Co.'s No. 2 Cheatham, 330 ft. S and E, NW cor. SE SE, Sec. 38, Blk. Y ..... Drlg. 2,550 ft.

Phillips Pet. Co.'s No. 1 Johnson-Burl, 330 ft. S and W, NE cor. W 240 ac., N 320 ac., Sec. 4, Blk. 1, B.&B. Sur. ..... Drlg. 2,075 ft.

Phillips Pet. Co.'s No. 1 Johnson-Juanita, 330 ft. N and W, SE cor. W½, Sec. 5, Blk. I, B.&B. Sur. .... Drlg. 2,710 ft.

Phillips Pet. Co.'s No. 1 Johnson-Trammel, 930 ft. N, 330 ft. W, SE cor. W½ NW, Sec. 38, Blk. Y ..... Drlg. 2,465 ft.

Phillips Pet. Co.'s No. 1 Johnson-Mayer, 990 ft. N and 990 ft. W line, NE, Sec. 37, Blk. Y, A.&B. Sur. ..... Drlg. 2,420 ft.

Phillips Pet. Co.'s No. 1 Johnson-Royal, 330 ft. S and E, NW cor. E½ NW, Sec. 34, Blk. Y ..... Drlg. 2,365 ft.

Phillips Pet. Co.'s No. 1 Johnson-Rudy, 330 ft. W, 330 ft. S, SW SW, Sec. 30, Blk. Y, A.&B. Sur. ..... C.O. 2,130 ft.

Phillips Pet. Co.'s No. 1 Vake (Hazel), 330 ft. N and W, Sec. 4, Blk XO2, H.O.&B. Sur. ..... Location.

Skelly Oil Co.'s No. 1 Byrd, 2,640 ft. E line, 3,960 ft. S line, W 3,094 ac., D. Luce Sur. ..... T.D. 3,410 ft; to complete as gasser.

Spurlock et als' No. 1-A Christian, 440 ft. S, 330 ft. W, NE cor. SE SE, Sec. 33, Blk. Y ..... Drlg. 1,775 ft.

The Texas Co.'s No. 5 Moore, 330 ft. N and W, SE cor. SW, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. ..... Drlg. 1,900 ft.

Texarado Oil Co.'s No. 2 Sanford, 330 ft. S, 990 ft. W, NE cor. N 80 ac., S 160 ac., Sec. 83, Blk. 46, H.& T.C.R.R. Sur. ..... Drlg. 2,250 ft.

LAMB COUNTY

Graham O. & G. Co. et als' No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ..... S.D. 4,408 ft; fishing.

LIPSCOMB COUNTY

Brown et als' No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ..... C.O. 3,750 ft.

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... Fishing 4,954 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft; S.D. 4,-167 ft.

MOORE COUNTY

Canadian River Gas Co.'s No. 1-C Sneed, 660 ft. N and E, SW, Sec. 46, Blk. 6-T, T.&N.O.R.R. Sur. ..... S.D. 2,500 ft.

Fritch O. & G. Co.'s No. 1 Lee Bivins, C N 40 ac., N 160 ac., Sec. 4, Geo. Mahan Sur. ..... 2,000,000 ft. gas 1,550-65 ft; T.D. 3,212 ft; S.O. 3,188 ft; shot 40 qts. from 3,182-3,202 ft; no results; S.D.

Gulf Prod. Co.'s No. 1 Kilgore, C SW, Sec. 22, Blk. P.Mc., E.L.R.R. Sur. ..... Red rock; 60,000,000 ft. gas; S.D. 2,815 ft.

Operators Royalty Co. et als' No. 1 Jones, 330 ft. S line, 330 ft. E line, SW SW, Sec. 164, Blk. 3-B, T.&N.O.R.R. Sur. ..... Drlg. 3,145 ft.

Red River Gas Co.'s No. 1 J. M. Shelton, 330 ft. ea. way from SE cor., Sec. 52, Blk. 3, G.&M. Sur. ..... Drlg. 3,070 ft.

MOTLEY COUNTY

Explin. Co.'s No. f Matador, 330 ft. N line, 330 ft. E line, Sec. 132, Blk. M ..... S.D. 4,011 ft.

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 580 ft.

POTTER COUNTY

Canadian River Gas Co.'s No. 1-N Masterson, 330 ft. E, 1,320 ft. S, Sec. 17, Blk. 3, G.&M.R.R. Sur. ..... Drlg. 1,870 ft.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. A-5 ..... Shot 10 qts. 5,270-93 ft; S.O. 5,-288 ft; S.D. 5,992 ft.

WHEELER COUNTY

Dunaway Bros.' No. 1 Worley, 330 ft. S and W, NE cor. NW, Sec. 39, Blk. 24, H.&G.N.R.R. Sur. ..... Drlg. 2,000 ft; S.G. 1,995 ft.

Lone Star Gas Co.'s No. 1 Brown, C NW NE, Sec. 53, Blk. 23, H.&G.N.R.R. Sur. ..... Location.

Lone Star Gas Co.'s No. 1 Fuller, C SW NE, Sec. 71, Blk. 17, H.&G.N.R.R. Sur. ..... Drlg. 375 ft.

Lone Star Gas Co.'s No. 2 Hicks (Martin), C NW NE, Sec. 52, Blk. 17, H.&G.N.R.R. Sur. ..... Location.

Lone Star Gas Co.'s No. 1 Nickell, C NW NW, Sec. 64, Blk. 17, H.&G.N.R.R. Sur. ..... Location.

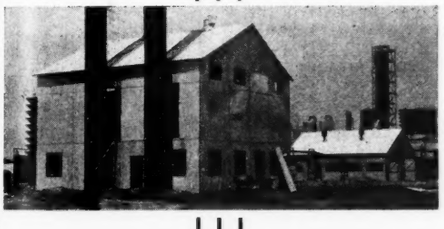
Lone Star Gas Co.'s No. 1 Wofford, C SE SW, Sec. 68, Blk. 17, H.&T.N.R.R. Sur. ..... Building rig.

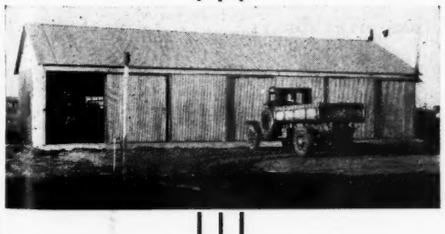
Lone Star Gas Co.'s No. 1 Ridinger, C NW NW, Sec. 65, Blk. 17, H.&G.N. Sur. ..... Rig on ground.

Murchison & Fain's No. 1 Perry, 1,980 ft. N, 660 ft. E, NE, Sec. 78, Blk. 23, H.&G.N.R.R. Sur. ..... Location.

Prince & Adams' No. 2 Burcham, C NE NE, Sec. 89, Blk. 17, H.&G.N.R.R. Sur. ..... Location.

Wischkamper et als' No. 2 Brown, C SE NE, Sec. 53, Blk. 23, H.&G.N.R.R. Sur. ..... S.D. 1,200 ft.





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WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 51)

Leue Oil Co.'s No. 1 Taylor, 1,153 ft. S, 360 ft. W, C, Sec. 16-22-6 ..... Derrick.

CONCORDIA PARISH

Joe Man et als' No. 1 Maxwell, C, Sec. 35-3n-8e ..... Claim oil sand 1,692 ft; W.O.

DE SOTO PARISH

Benson Oil Co.'s No. 1 Harris, Sec. 6-10-13 ..... **Tested dry; show gas; W.O. 3,650 ft.**

Loring Oil Co.'s No. 1 Johnson, 300 ft. S, 300 ft. W, NE cor., Sec. 7-11-13 ..... Completed Mar. 4, 1930; 12,859,560 ft. gas; 96 lbs. rock pres. and spraying S.W.; T.D. 2,865 ft.; coring 2,870 ft.

FRANKLIN PARISH

Davis et als' No. 1 Moore, 600 ft. W, 200 ft. S, NE cor., Sec. 12-11-6 ..... S.D. 1,430 ft.

Evansville Inv. Co.'s No. 1 W. B. Welch, 945 ft. E, 511 ft. N, SW cor., Sec. 2-14-8 ..... Drlg. 3,456 ft.

Franklin O. & G. Co.'s No. 1 T. J. O'Brien, 300 ft. N, 300 ft. E, SW cor. NW, Sec. 17-15-9 ..... S.D. repairs 2,500 ft.

NATCHITOCHES PARISH

S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E, 350 ft. N, C, Sec. 23-5-6 ..... Tested 1,000,000 ft. gas and S.W. 3 ft; S.D. for orders; T.D. 2,536 ft.

Robeline O. & G. Co.'s No. 1 Winn, 558 ft. N, 348 ft. E, SW cor. SE, Sec. 7-8-9 ..... S.D. 1,600 ft.

OUACHITA PARISH

J. L. Bullock, trustee's No. 1 W. Va. Lbr. Co., N½ NE, Sec. 25-18-5 ..... S.D. account of high wtr; T.D. 3,700 ft.

RAPIDES PARISH

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E, SW cor., Sec. 9-6n-2e ..... S.D. for fuel 2,650 ft.

RED RIVER PARISH

W. D. Ball's No. 1 Krumholtz, 660 ft. S, 660 ft. E. NW cor., Sec. 32-14-10 ..... Arranging D.S. test; 3-ft. sand; T.D. 1,701 ft.

LeGrande et als' No. 1 Sample, Sec. 11-14-11 ..... Rigging up.

RICHLAND PARISH

Austin & McDonald's No. 1 Hunt, 594 ft. N, 660 ft. E, SW cor., Sec. 13-17-5 ..... Derrick.

Austin & McDonald's No. 2 Millsaps, SW cor., Sec. 17-17-6 ..... Waiting orders; T.D. 2,679 ft.

Austin & McDonald's No. 3 Millsaps, 1,980 ft. S, 660 ft. E, NW cor., Sec. 16-17-6 ..... Tested S.W; W.O. 2,477 ft.

Austin & McDonald's No. 4 Millsaps, NW cor., Sec. 16-17-6 ..... Location.

Austin & McDonald's No. 5 Millsaps, 2,640 ft. N, 1,320 ft. W, SE cor., Sec. 8-17-6 ..... Derrick.

W. C. Feazel's No. 1 Landrum, 620 ft. N, 4,573 ft. E, SW cor., Sec. 6-16-7 ..... Derrick.

Richland O. & G. Co.'s No. 1 Singleterry, 1,930 ft. N, 660 ft. W, SE cor., Sec. 20-18-7 ..... Cmtd. 9-in. csg. 970 ft.

Shreveport Contractors, Inc.'s No. 1 Buie, 600 ft. E, 400 ft. N, SW cor., Sec. 17-15-7 ..... S.D; shale and boulders 2,527 ft.

SABINE PARISH

Bridges-Clark Oil Co.'s No. 1 Cook, 150 ft. S, 200 ft. W, NE cor. NW NW, Sec. 3-9-12 ..... Rigging up.

Bridges-Clark Oil Co.'s No. 1 Gay et al, 200 ft. S, 300 ft. E, NW cor. NE NW, Sec. 3-9-12 ..... Gauged 12,500,000 ft. gas; blowing shale; killed and resetting liner; T.D. 3,276 ft.

Bridges-Clark Oil Co.'s No. 1 McWilliams, 330 ft. S, 330 ft. E, NW cor., Sec. 30-10-11 ..... Cmtd. 6⅝-in. 3,116 ft.

R. L. Gay, trustee's No. 7 Bowman-Hicks, 330 ft. N, 330 ft. W, SE cor. NE SW, Sec. 14-7-14 ..... Rig up.

R. L. Gay, trustee's No. 8 Bowman-Hicks Lbr. Co., 330 ft. N, 330 ft. W, SE cor. NW SW, Sec. 18-7-13 .... Derrick.

R. L. Gay, trustee's No. 4 Sabine Lbr. Co., 330 ft. N, 330 ft. E, SW cor., Sec. 13-7-14 ..... Began drlg. Mar. 24; cmtd. 10-in. 68 ft; drlg. 328 ft.

G. M. LeGrand's No. 1 A. C. Haley, 1,020 ft. N, 3,300 ft. E, NW cor., Sec. 6-7-12 ..... Flowing S.W; T.D. 2,576 ft; W.O.

Loring Oil Co.'s No. 1 Peavy-Wilson Lbr. Co., 200 ft. S, 330 ft. W, NE cor. SW NE, Sec. 21-6-13 ..... Derrick.

Lohman et als' No. 1 Wyatt Lbr. Co., 150 ft. S, 330 ft. E, NW cor. NE SW, Sec. 15-4-11 ..... Derrick.

J. C. McDaniel's No. 1 Darby, SE cor., Sec. 16-8-12 .... Derrick.

Paramount O. & G. Co.'s No. 1 Wootems, 330 ft. N, 330 ft. W, SE cor. NE NW, Sec. 11-6-12 ..... Cmtd. 10-in. 64 ft; drlg. 150 ft.

Pelican O. & G. Co.'s No. 1 La. Long Leaf Lbr. Co., 215 ft. N, 30 ft. E, SW cor. NW SE, Sec. 4-7-11 .... Drlg. 1,070 ft.

Pelican O. & G. Co.'s No. 1 Sabine Lbr. Co., 330 ft. S, 330 ft. E, NW cor. NE SW, Sec. 1-7-12 ..... Drlg. 2,208 ft.

Ray-Dawes Drlg. Co.'s No. 1 Mansfield Hdw. Lbr. Co., Sec. 36-8-13 (no check) ..... Cmtd. 6⅝-in. 2,115 ft.

W. F. Lacey et als' No. 1 Knouse, 60 ft. N, 111 ft. W, SE cor. NE SE, Sec. 36-8-13 ..... Rig up.

D. H. Riddick's No. 1 Scretchfield, 400 ft. E, 400 ft. N, SW cor. NW SE, Sec. 18-9-12 ..... D.S. test; 2,315 ft. S.W; drlg. 2,350 ft.

A. H. Tarver's No. 2 Long Bell, 800 ft. N, 800 ft. W, SE cor. SW, Sec. 18-8-13 ..... Coring 3,375 ft.

TENSAS PARISH

A. R. Willis et als' No. 1 Curry, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12 ..... S.D. 600 ft.

UNION PARISH

Bahan & Bahan's No. 1 J. West, 660 ft. N, 660 ft. E. SW cor. SE, Sec. 33-23-3 ..... D.S. test 2,500 ft.; dry and S.D.; W.D.

Fred Stovall's No. 1 Stovall, 1,820 ft. E, 350 ft. N, SW cor., Sec. 32-23-4 ..... Rig up.

WEBSTER PARISH

J. J. Kean's No. 1 Monzingo (was F. M. Fuller's), 200 ft. N, 200 ft. W, SE cor., Sec. 27-18-8 ..... Coring black shale 357 ft.

WEST CARROLL PARISH

H. L. Hunt, Inc.'s No. 1 R. E. Brown, NW cor. NW SW, Sec. 4-21-11 ..... Cmtd. cavity; drlg. 1,016 ft; old T.D. 1,595 ft.

Palmer Corp.'s No. 1-A Marston, 1,320 ft. S, 89 deg., 35 min. W, 1,320 ft. of SE cor., Sec. 11-19-10 ..... Tested S.W; W.O. 2,675 ft.

ARKANSAS

ASHLEY COUNTY

J. D. Marcum Co.'s No. 1 McGarry, 300 ft. W, 100 ft. S, center Sec. 10-19-4 ..... O.W.D.D.; arranging to deepen; T.D. 3,300 ft.

CLEBURNE COUNTY

Cosden Oil Co. of Ark.'s No. 1 Donophan, 100 ft. S, 660 ft. E, NW cor. SW SE, Sec. 19-9-10 ..... Drlg. blue shale 2,455 ft.

Donnelly-Craver et als' No. 1 Doniphan Lbr. Co., SE cor. NW, Sec. 33-11-9 ..... S.D. wtr; corrected depth 105 ft.

COLUMBIA COUNTY

Parker et als' No. 1 Franks, 330 ft. S, 330 ft. W, C, Sec. 25-19-22 ..... S.D. 2,835 ft.

DREW COUNTY

McClintock & Goodka's No. 1 Ogles, 920 ft. W, 400 ft. S, NE cor., Sec. 35-13-5 ..... S.D. repairing rig 1,810 ft.

FAULKNER COUNTY

Gold Creek O. & G. Co.'s No. 2 Stermer, SE cor. NW SE, Sec. 17-4-13 ..... Began drlg. Dec. 12.

GARLAND COUNTY

Givens et als' No. 1 Garrett, 660 ft. S, 660 ft. W, C, Sec. 1-3-19 ..... Drlg. 3,604 ft.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32 .... S.D. 2,335 ft.

McDonald & Shaw's No. 1 W. E. Black, 240 ft. N, 460 ft. W, SE cor. SE NE, Sec. 12-13-28 ..... Tested S.W. 2,016 ft.

LOGAN COUNTY

M. W. Greeson's No. 1 C. S. Parke, 330 ft. N, 330 ft. W, SE cor., Sec. 21-8-24 ..... Cmtd. 6-in. 950 ft; drlg. broken shale 1,825 ft.

MADISON COUNTY

Phillips Pet. Co. and F. S. Craver's No. 1, C, Sec. 11-14-28. Tested 250,000 ft. gas 63 ft; drlg. 1,461 ft.

OUACHITA COUNTY

Anderson & Wimmer's No. 1 Buck, Sec. 7-15-17 ..... Reported junked and abd; C.O; T.D. 2,727 ft.

Artex Oil Co.'s No. 1 M. V. Smith, 330 ft. S, 330 ft. E, NW cor. SE NW, Sec. 31-15-17 ..... S.W. 3,077 ft; drlg. 3,166 ft; T.A. 3,188 ft.

PIKE COUNTY

Theo. Davis, trustee's No. 1 Ruth Wilson, 200 ft. S, 200 ft. W, NE cor., Sec. 25-5-26 ..... S.D; funds; T.D. 713 ft.

POPE COUNTY

Cosden Oil Co.'s No. 1 Mo. Pac. R.R., 660 ft. N, 660 ft. E, SW cor. NW SE, Sec. 13-9-19 ..... Drlg. 3,235 ft.

PRAIRIE COUNTY

Transcontinental Oil Co.'s No. 1 Louis Novak, 330 ft. E, 330 ft. N, SW cor. SW NE, Sec. 36-2n-6 ..... Reaming to bottom 2,930 ft.

ST. FRANCIS COUNTY

Brownlee Drlg. Co.'s No. 1 Whitted, 110 ft. N, 110 ft. E, SW cor. SE NW, Sec. 28-4-1 ..... S.D.; funds; 300 ft.

UNION COUNTY

Al-Cal Oil Corp.'s No. 1 Harvey, 660 ft. W, 300 ft. S, NE cor. SW SE, Sec. 1-17-16 ..... S.D.; W.O. 2,770 ft.

E. L. Chapman's No. 1 School, Sec. 9-18-13 ..... Location.

W. M. Coates, trustee's No. 1 McDuffie, Sec. 32-19-17.. T.A. in red beds; T.D. 4,506 ft.

Federal Pet. Co. and Union Sawmill Co.'s No. 1 fee, 330 ft. N, 330 ft. W, SE cor. NW NE, Sec. 9-18-13.. Derrick.

H. L. Hunt's No. 1 Norris (formerly reported Ark. Drlg. Co.'s No. 1 Norris), Sec. 17-18-12 ..... O.W.D.D; abd. S.W. 3,400 ft; arranging to deepen.

Lion Oil Ref. Co.'s No. 1 Ballard, 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 10-18-15 ..... D.S. test 1 ft. sand 3,568 ft. and 3,591 ft; 27 fourbles S.W; arranging retest; T.D. 3,583 ft.

Marine Oil Co.'s No. 1 Simmons, 200 ft. N, 200 ft. W, SE cor. SE NW, Sec. 10-18-13 ..... Tested 11 joints oil 3,520-28 ft; cmtd. 8¼-in. 3,520 ft; T.D. 3,531 ft.

Marine Oil Co.'s No. 2 Simmons, 300 ft. N, 300 ft. E, SW cor. SE NW, Sec. 10-18-13 ..... Rig up.

Marine Oil Co.'s No. 2-B Winn, 200 ft. S, 200 ft. E, NW cor. NW SE, Sec. 10-18-13 ..... Drlg. red beds 3,307 ft.

Modisette Drlg. Co.'s No. 3 Union Sawmill, 330 ft. S, 330 ft. W, NE cor., Sec. 14-18-14 ..... Began drlg. Mar. 1; cmtd. 10-in. 74 ft; drlg. 2,050 ft.

Modisette et als' No. 1 Union Sawmill Co., 330 ft. N, Johnson Drlg. Co.'s No. 1 Tate, 200 ft. N and W, SE cor. NE NW, Sec. 14-18-14 ..... Bailed dry; filled up 200 ft. oil in 12 hrs; pulled liner; C.O; 10-ft. sand; T.D. 2,226 ft.

Johnson-Gummer Co.'s No. 1 Cargile, Sec. 4-18-15 ..... Coring 3,695 ft.

Simms Oil Co.'s No. 1 G. D. Simmons, 200 ft. S, 200 ft. W, NE cor. SW, Sec. 10-18-13 ..... Derrick.

VAN BUREN COUNTY

Glenn Cole et al, trustees' No. 1 Scanlan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13 ..... S.D. 50 ft.

WASHINGTON COUNTY

Delbert & Graves' No. 1 Cunningham, Sec. 14-15-32 .... S.D. repairing pump; T.D. 550 ft.

O'Hara & Shetterly's No. 1 Boyd, SE cor. SE NE, Sec. 12-16-32 ..... Spudded Sept., 1928; S.D. 140 ft; resumed drlg. Aug. 25; U.R; T.D. 150 ft.

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... Trying to kill wtr. flow 2,150 ft; hard sand showing oil 1,637-40 ft.

Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32 ..... U.R. 8-in. to T.D. 1,500 ft.

WHITE COUNTY

Letona Synd.'s No. 1 Letona, SE cor. NW SW, Sec. 35-9-8 ..... Cmtd. 5 3/16-in. 3,500 ft; drlg. 3,605 ft.

EAST TEXAS

CAMP COUNTY

Rogers et als' No. 1 Enfelt, R. M. Montgomery Sur. ..... Tested dry 1,870 ft; S.D. 1,920 ft.

MARION COUNTY

R. E. Davidson's No. 1 Susie Chapman, Jackson-Grayson Survey ..... Top chalk 1,960 ft; T.D. 2,340 ft; fishing D.S.

P. E. Hussey's No. 1 A. A. Trammell, Chas. Lockhart Sur. ..... Derrick pattern.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. .... S.D. 2,365 ft.

Shad Harper's No. 1 W. R. Garland, J. Wagley Sur. .... S.D. 1,862 ft.

Johnson Pet. Co.'s No. 2 Randolph, Edward Dean Sur.. S.D. 2,182 ft.

SHELBY COUNTY

Loring Oil Co.'s (formerly Benedum & Trees Oil Co.'s) No. 1 McCann, D. G. Green Sur. ..... Drlg. 3,325 ft.

Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur. .. S.D. for orders 3,004 ft.

MISSISSIPPI

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e.. Shot with 100 qts. and reset 6-in. 2,393 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor., Sec. 20-13-3 ..... Driving 8¼-in. through quicksand; T.D. 1,280 ft.

HINDS COUNTY

Oscar Brown's No. 1 Riverside (formerly Hennessee et als') SE cor. SE SW, Sec. 23-16-5 ..... Set 12½-in. 30 ft; S.D. 1,050 ft.

Jackson O. & G. Co.'s No. 1 Taylor, C. Sec. 35-6-1e .... Derrick.

Jackson O. & G. Co.'s No. 1 Mayes, Sec. 2-5-1e ..... Estimated 2,000,000 ft. gas 2,000 bbls. wtr.; T.A., T.D. 2,480 ft.

La. G. & F. Co.'s No. 1 Hanis, Sec. 35-6-1e ..... Began drlg. Mar. 15; cmtd. 12½-in. 93 ft.

Love O. & G. Co.'s No. 1 Mendoza, Sec. 11-5-1e ..... Derrick.

Jackson O. & G. Co.'s No. 1 Taylor, center Sec. 35-6-1e. Derrick.

Mrs. Reeder et als' No. 1 State, SE cor. NW NW, Sec. 25-6-1e ..... W.O; T.D. 2,905 ft.

HUMPHREYS COUNTY

E. C. Steele et als' No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w ..... Set 12½-in. 60 ft; S.D.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E. NW cor. NE, Sec. 2-7-16 ..... Set 8¼-in. 2,792 ft; T.D. 2,816 ft. sand 2,809-14 ft.; W. O.; T.D. 2,168 ft.

Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-18 ..... S.D.; green sand 2,698 ft.

J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-6-14 .... Derrick.

LAFAYETTE COUNTY

Banks-Goode et als' No. 1 May, 113½ rods S, 26 rods E, NW cor. SW, Sec. 22-10-1w ..... Derrick.

LINCOLN COUNTY

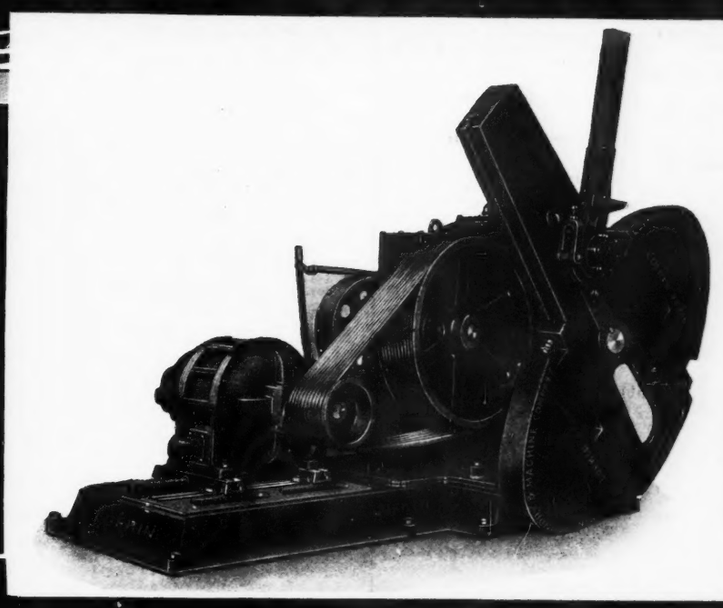
Lincoln O. & G. Co.'s No. 1 Pat Case, NE NE, Sec. 21-8-6 ..... S.D; W.O. 2,221 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D. 2,912 ft; bailer lost in hole.

Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19 ..... Drlg. 2,362 ft.; showing small amount gas; 6-in. 2,314 ft.

Park Bowser et als' No. 1 Cowart, second hole, Sec. 2-12-19 ..... S.D. 30 ft.



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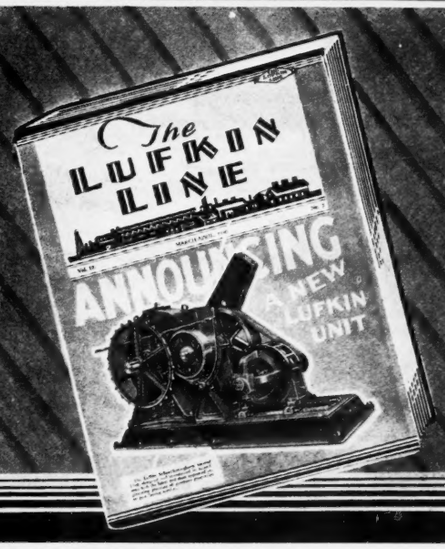

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A

RANKIN COUNTY

Gulf Ref. Co.'s No. 1 Rainey, NW NW, Sec. 13-5-1e .... D.S. test 2,510-15 ft; oil and S. W; reaming; to set 9-in. 2,500 ft.

R. A. More et als' No. 1 Interior Lbr. Co., Sec. 28-6-1e .. S.D. repairs 400 ft.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-15 ..... S.D. 2,475 ft.; 2,350 ft. D.S. in hole; W.O.

YALOBUSHA COUNTY

Carter Oil Co. and J. D. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, C, Sec. 14-11-4 ..... Fishing drill stem; T.D. 3,488 ft.

YAZOO COUNTY

Amerada Pet. Corp.'s No. 1 Doherty, SW SW, Sec. 24-12-2 ..... Drlg. sandy lime 5,183 ft.

ALABAMA

LAMAR COUNTY

Briggs & Knapp's No. 1 Wefel, Sec. 25-12-14 ..... T.A. 1,740 ft.

LAUDERDALE COUNTY

A. D. Morton et als' No. 10 O'Neal estate, Sec. 8-2s-13w. Rigging up cable tools.

MARION COUNTY

Hobson et als' No. 1 John Clark, SE, Sec. 29-11-14 .... Derrick pattern.

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2 ..... S.D; S.W. flow at 1,450 ft.

S. A. Hobson's No. 1 Wilson, Sec. 27-7-1 ..... Fishing baller; T.D. 881 ft.

Oscar Brown's No. 2 Land & Cotton Co., Sec. 35-3-2w... Drlg. 700 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 51)

H. L. Hunt's (was Love et als') No. 1 Allen, SE cor. NE NE, Sec. 20-23-11 ..... Arranging D.S. test 3,104 ft.

H. L. Hunt, Inc.'s No. 5 J. W. Peyton, 990 ft. W, 330 ft. S. NE cor. SE, Sec. 25-23-13 ..... Location.

H. L. Hunt, Inc.'s No. 7 J. W. Peyton, 990 ft. S, 990 ft. E, C, Sec. 25-23-13 ..... Location.

H. L. Hunt, Inc.'s No. 8 J. W. Peyton, 990 ft. E, 330 ft. S, C, Sec. 25-23-13 ..... Rigging up.

H. L. Hunt, Inc.'s No. 9 J. W. Peyton, 330 ft. S, 330 ft. E. C, Sec. 25-23-13 ..... Drlg. 2,200 ft.

H. L. Hunt, Inc.'s No. 10 J. W. Peyton, 990 ft. S, 330 ft. E. C, Sec. 25-23-13 ..... D.S. stuck; T.D. 3,100 ft.

Lide and others' No. 1 Matlock, 2,970 ft. S, 990 ft. E. NW cor., Sec. 26-23-13 ..... Rig up.

Lide et als' No. 1 Farrington, 330 ft. N, 330 ft. W, SE cor. NW NW, Sec. 33-23-13 ..... Tested estimated 2,000,000 ft gas 2,713 ft; drlg. 2,900 ft.

La. Pet. Corp.'s No. 3 Bain, 330 ft. S and E, NW cor. SW NW, Sec. 31-23-11 ..... Drlg. 2,900 ft.

La. Pet. Co.'s No. 3 Bain, Sec. 31-23-11 ..... Drlg. 3,120 ft.

Magnolia Pet. Co.'s No. 1 E. C. Dodson, Sec. 16-23-12.. Arranging for D.S. test 3,236 ft.

Magnolia Pet. Co.'s No. 2 Matlock, 330 ft. S and W, NE cor. SE SW, Sec. 25-23-12 ..... Began drlg. Mar. 25.

Magnolia Pet. Co.'s No. 1 Roberson, Sec. 26-23-12 ..... Cored hard sandy shale 3,189 ft.

Magnolia Pet. Co.'s No. 3 Matlock, 330 ft. N, 330 ft. W, SE cor. SE SW, Sec. 25-23-12 ..... Derrick.

Muslow Oil Co.'s No. 1 Barnette, Sec. 25-23-12 ..... W.O.S.R. 700 ft. oil; 12-ft. sand; T.D. 3,159 ft.

Muslow Oil Co.'s No. 2-A Kilgore, Sec. 31-23-11, (no check) ..... Began drlg. Mar. 15; cmtd. 10-in. 255 ft; drlg. 2,412 ft.

Muslow Oil Co.'s No. 3 Barnett, 1,003 ft. N, 990 ft. W, SE cor., Sec. 25-23-12 ..... D.S. test 2,692 ft.; small show oil; drlg. 2,695 ft.

Muslow Oil Co.'s No. 1 Mark Myer, 1,980 ft. N, 330 ft. W, SE cor., Sec. 36-23-12 ..... Arranging to deepen; T.D. 3,088 ft.

Muslow Oil Co.'s No. 2 Peyton, Sec. 30-23-11 ..... Cmtd. 6⅝-in. 3,135 ft; T.D. 3,148 ft.

Muslow Oil Co.'s No. 3 Peyton, Sec. 30-23-11 ..... Tested dry 3,149 ft; shot formation; W.O; T.D. 3,175 ft.

Muslow Oil Co.'s No. 1 Floyd, 990 ft. S, 330 ft. W, C, Sec. 25-23-12 ..... Arranging D.S. test; 10-ft. sand; T.D. 3,165 ft.

Nat. Gas Prod. Co.'s No. 2 U. S. Govt., NW cor. SE NW, Sec. 31-23-11 ..... Bailed to top liner; showed some oil and gas; set 2-in. tubing; rose 2,000 ft. in oil; 10-ft. sand; W.O.S.R; T.D. 3,177 ft.

Nat. Gas Prod. Co.'s No. 3 U. S. Govt., 1,520 ft. S, 2,580 ft. E, NW cor., Sec. 31-23-11 ..... Location.

Nat. Gas Prod. Co.'s No. 4 U. S. Govt., 2,440 ft. S, 2,580 ft. E, NW cor., Sec. 31-23-11 ..... Location.

Olsen Bros. and Ingall's No. 1 Pine Woods Lbr. Co., SE cor. NW NW, Sec. 25-23-12 ..... Location.

Phillips Pet. Co.'s No. 2 Bolin (was No. 1-A Bollinger) (formerly Sales & Walker's No. 4 Bollinger), 690 ft. S, 1,120 ft. E, NW cor. SW, Sec. 30-23-11 ..... Perforated 6⅝-in. 3,113-33 ft; 300 ft. oil in hole; W.O.S.R; T.D. 3,247 ft.

Phillips Pet. Co.'s No. 3 Bollinger, 700 ft. E, 265 ft. S, NW cor. SW SW, Sec. 30-23-11 ..... Coring 3,115 ft.

Phillips Pet. Co.'s No. 4 Bollinger, NW cor. E½, NW SE, Sec. 30-23-11 ..... Drlg. 1,900 ft.

Phillips Pet. Co.'s No. 5 Bollinger, 990 ft. E, 336 ft. N SW cor., Lot 16, Sec. 30-23-11 ..... Derrick.

Phillips Pet. Co.'s No. 1 Floyd, 330 ft. S, 330 ft. W center, Sec. 25-23-12 ..... Rig up.

The Texas Co.'s No. 2 Peyton, 990 ft. N, 330 ft. W, SE cor., Sec. 25-23-12 ..... W.O.S.R. 3,195 ft.

The Texas Co.'s No. 4 Peyton, 990 ft. E, 330 ft. N. SW cor., Sec. 30-23-11 ..... Cmtd. 6⅝-in. 3,133 ft; T.D. 3,148 ft.

The Texas Co.'s No. 5 Peyton, 330 ft. N, 330 ft. W SE cor., Sec. 25-23-12 ..... Derrick.

The Texas Co.'s No. 6 Peyton, 330 ft. N, 330 ft. E SW cor., Section 30-23-11 ..... Began drlg. Mar. 20; cmtd. 10-in. 383 ft; drlg. 1,940 ft.

The Texas Co.'s No. 5 Wilkinson, 1,470 ft. S, 150 ft. W NE cor., Sec. 36-23-12 ..... Rig up.

Tippett et als' No. 1 Holmes, 300 ft. S, 300 ft. W, NE cor. NE NW, Sec. 36-23-12 ..... D.S. test 3,167 ft; 5 fourbles oil and 4 of mud in 10 minutes; cmtng. 6⅝-in.

John Woodley et als' No. 2 L. & A., 990 ft. N, 990 ft. W, SE cor., Sec. 14-23-12 ..... S.D. 3,137 ft.

Woodley et als' No. 1 Roberson, 330 ft. N, 330 ft. W, SE cor. SW NE, Sec. 32-23-13 ..... Began drlg. Mar. 24; drlg. 250 ft.

CADDO PARISH—GREENWOOD

Calatex O. & G. Co.'s No. 1 Taylor Trosper, 2,519 ft. S, 1,393 ft. E, CWL, Sec. 7-16-16 ..... Cmtd. 6-in. 2,814 ft; drlg. plug; T.D. 2,919 ft.

Calatex O. & G. Co.'s No. 2-A Agurs, 1,325 ft. S, 1,304 ft. E, NW cor., Sec. 7-16-16 ..... Derrick.

CADDO PARISH—HOSSTON

Bayou State Oil Corp.'s No. 39 Jolly, 435 ft. W, 775 ft. N, SE cor. NE ..... W.O.S.R. 1,914 ft.

CADDO PARISH—MOORINGSPORT DISTRICT

Falcon Oil Co.'s No. 3 Nunnelly, 2,832 ft. N, 3,693 ft. E, SW cor., Sec. 29-20-15 ..... Rig up.

CADDO PARISH—OIL CITY

Gulf Ref. Co.'s No. 25-A Levee Board, 1,520 ft. S, 300 ft. E NW cor., Sec. 34-21-16 ..... Began drlg. Mar. 23; cmtd. 10-in. 105 ft.

H. M. Matson's No. 1 U. S. Govt., 930 ft. E, 400 ft. S, NW cor. ..... W.O.S.R. 2,292 ft.

Standard Oil Co.'s No. 19 J. J. Hart, 1,305 ft. E, 1,120 ft. S, NW cor., Sec. 34-21-16 ..... Location.

The Texas Co.'s No. 72 Levee Board, 725 ft. N, 210 ft. E, SW cor. SE, Sec. 27-21-6 ..... Drlg. hard sand 1,852 ft.

The Texas Co.'s No. 73 Levee Board, 1,643 ft. E, 780 ft. N, SW cor. SW SE, Sec. 27-21-16 ..... Location.

DE SOTO PARISH—KINGSTON

R. O. Roy's No. 1-B Farmer, 660 ft. S, 660 ft. E, NE SW, Sec. 13-13-13 ..... Derrick.

R. O. Roy's No. 1 Lee, 660 ft. N, 660 ft. E, SW cor., Sec. 33-14-13 ..... Rig up.

Shreveport Oil Corp.'s No. 4 Hicks, Sec. 32-19-15 ..... W.O.S.R. 2,117 ft.

PINE ISLAND

Ark. Fuel Oil Co.'s No. 1 Mrs. C. B. Scott, 330 ft. N, 330 ft. W, SE cor. NW, Sec. 32-14-13 ..... Rig up.

LA SALLE PARISH—URANIA

Ark. Fuel Oil Co.'s No. 5 Urania, 200 ft. S, 200 ft. E, NW cor. NE SE, Sec. 24-10-1e ..... Drlg. 5,255 ft.

Gulf States Gas Co.'s No. 1 Urania, 250 ft. W, 150 ft. S, NE cor., Sec. 1-10-1e ..... S.D. 1,000 ft.

Hope Oil Co.'s No. 5 Urania, 660 ft. E, 150 ft. S, NW cor. SW SW, Sec. 19-10-2e ..... Derrick.

Kinney, Hardtner & Randall's No. 1 Kinney, SW SW, Sec. 7-10-2e ..... S.D. 1,570 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 3 Feazel, 990 ft. S, 990 ft. W, NE cor. Sec. 3-20-4 ..... Cmtd. 6-in. 2,088 ft.

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 330 ft. S, NE cor., Sec. 3-20-4 ..... Location.

J. S. Herkness' No. 12 Bowles, 3,292 ft. E, 3,300 ft. S, NW cor., Sec. 18-20-5 ..... S.D.; junked; T.D. 2,737 ft.

La. G. & F. Co.'s No. 26 Crossett, 645 ft. E, 574 ft. S, NW cor. Lot 9, Sec. 33-21-5 ..... Location.

La. G. & F. Co.'s No. 27 Crossett, N 67 deg., 30 ft. E 2,079 ft; N 20 deg. 30 ft. W 594 ft., SW cor. Lot 3, Sec. 33, in Sec. 45-21-5 ..... Location.

Magnolia Pet. Co.'s No. 8 U. S. Govt., 310 ft. S, 410 ft. E, NW cor., Lot 4, Sec. 33-21-5 ..... Drlg. 1,190 ft.

La. G. & F. Co.'s (formerly Nat. Gas Prod. Co.'s) No. 25 Crossett Lbr. Co., 1,444 ft. S, 793 ft. W, NE cor. NW, Sec. 29-21-5 ..... Bailing to test; T.D. 2,382 ft.

J. A. Noe et als' No. 1 Wright, 694 ft. N, 392 ft. W, C, Sec. 27-20-4 ..... Arranging to test; T.D. 2,130 ft.

Southern Carbon Co.'s No. 14 Tensas, 660 ft. N, 660 ft. E, SW cor. NW, Sec. 34-21-4 ..... S.D. on account high wtr; T.D. 2,081 ft.

OUACHITA PARISH

Chauvin Gas Co.'s No. 4 Slagle Johnson, 647 ft. W, 2,303 ft. S, NE cor., Sec. 47-18-4 ..... Drlg. shale and boulders 2,125 ft.

Hope Prod. Co.'s No. 2 Fairbanks, 1,876 ft. E, 628 ft. N, SW cor. SE, Sec. 35-20-4 ..... Location.

Hope Prod. Co.'s No. 3 Fairbanks, 1,876 ft. E, 628 ft. S, NW cor. NE, Sec. 36-20-4 ..... Killed blowout; pulling D.S; T.D. 2,302 ft.

Jordan Drlg. Co.'s No. 6 Cole, 1,596 ft. W, 2,388 ft. N, SE cor., Sec. 49, in Sec. 50-18-4 ..... Rigging up.

Jordan Drlg. Co.'s No. 7 Cole, 265 ft. S, 1,459 ft. W, NE cor., Sec. 49, in Sec. 50-18-4 ..... Location.

Jordan Drlg. Co.'s No. 2 Pereboom, 1,207 ft. W, 264 ft. S, C, Sec. 9-18-4 ..... Location.

Jordan Drlg. Co.'s No. 1 School, 216 ft. S, 244 ft. W, NE cor. NW, Sec. 16-18-4 ..... Location.

La. Gas & Fuel Co.'s No. 1 Beard, Sec. 46-18-4 ..... Arranging to test; T.D. 2,175 ft.

La. Gas & Fuel Co.'s No. 2 Breard, S 80 deg. 50 ft; W 891 ft; S 31 deg. E 489 ft; NE cor., Sec. 45-18-4.. Location.

Magnolia Pet. Co.'s No. 2 fee 401, 660 ft. S, 660 ft. E, NW cor., Sec. 2-18-3 ..... Derrick.

Sho-Van Gas Products Co.'s No. 4 W. Va., 1,078 ft. N, 294 ft. W, NE cor., Sec. 49, in Sec. 7 ..... Began drlg. Mar. 23; drlg. 125 ft.

Union Gas Products Co.'s No. 1 Hare, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 32-19-5 ..... D.S. test 2,565 ft; dry; W.O.

United Oil & Nat. Gas Products Co. of La.'s No. 5 Guthrie, 6,396 ft. N, 6,023 ft. W, cor. Secs. 49, 36, and 25, Sec. 49-20-5 ..... Derrick.

United Carbon Co.'s No. 2 Puckett, 660 ft. N, 660 ft. E, SW cor. SW, Sec. 15-19-5 ..... Drlg. 2,710 ft.

United Carbon Co.'s No. 4 Spade, 774 ft. S, 2,031 ft. E, NW cor., Sec. 6-18-4 ..... Bailing csg; T.D. 2,143 ft.

United Carbon Co.'s No. 5 Spade, Sec. 35-19-3 ..... S.D; high wtr; T.D. 1,705 ft.

United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4 ..... Location.

United O. & N. G. Co.'s No. 3 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 ..... Derrick.

RICHLAND PARISH

Ark.-La. P. L. Co.'s No. 3-B E. A. and F. B. Sartor, 300 ft. N, 330 ft. E, SW cor., Sec. 24-16-5 ..... Bailing csg. 2,300 ft.

Ark.-La. P. L. Co.'s No. 4 Sartor, 660 ft. S, 1,320 ft. E, NW cor. SW, Sec. 18-16-6 ..... Location.

W. C. Feazel's No. 1 R. B. Simon, 2,406 ft. W, 2,020 ft. S, NE cor., Sec. 11-16-6 ..... Rig up.

International Gas Products Co.'s No. 1 Minnie La-Grone, 769 ft. N, 858 ft. E. SW cor., Sec. 7-16-7 .. Location.

La. G. & F. Co.'s No. 1-A Mulhein, 1,731 ft. N, 2,243 ft. E SW cor. NW, Sec. 32-17-6 ..... Cmtng. 6-in. 2,300 ft.

La. G. & F. Co.'s No. 2-C F. B. Sartor, 750 ft. N, 945 ft. E, C, Sec. 20-16-6 ..... Rig up.

La. G. & F. Co.'s (formerly Nat. Gas Prod. Co.'s) No. 1-C Sartor, 536 ft. N, 1,333 ft. E, SW cor. NW, Sec. 21-16-6 ..... Cmtd. 5¾-in. 2,300 ft; drlg. lime 2,357 ft.

Palmer Corp.'s No. 1 B. F. Chapman, 3,300 ft. S, 1,330 ft. W, NE cor., Sec. 35-16-6 ..... Derrick.

Palmer Corp.'s No. 1-A Earl, Sec. 2-16-6 ..... Cmtd. 5-in. 2,485 ft; T.D. 2,492 ft.

Palmer Corp.'s No. 1 Louise Rhymes, 1,335 ft. N, 906 ft. E, SW cor., Sec. 32-17-6 ..... Location.

Palmer Corp.'s No. 7 Rhymes, 660 ft. N, 660 ft. E, SW cor., Sec. 7-16-6 ..... Began drlg. Mar. 19; cmtd. 12½-in. 172 ft; 9-in. 887 ft.

Palmer Corp.'s No. 8 Rhymes, 1,008 ft. E, 635 ft. S, NW cor., Sec. 33-17-6 ..... Location.

Palmer Corp.'s No. 9 Rhymes, 733 ft. N, 1,278 ft. E, SW cor., Sec. 4-16-6 ..... Derrick.

Richland Operating Co.'s No. 2 Traylor, 1,000 ft. E, 477 ft. N, C, Sec. 25-16-6 ..... Location.

Southern Carbon Co.'s No. 1 Hale, 660 ft. N, 760 ft. W, SE cor., Sec. 16-16-6 ..... Recmtd. 6-in. 2,282 ft; T.D. 2,460 ft.

Southern Carbon Co.'s No. 1 Lindow, 3,300 ft. W, 1,320 ft. S, NE cor., Sec. 16-16-6 ..... Drlg. 2,100 ft.

Southern Carbon Co.'s No. 1 McCoy, 1,980 ft. E, 3,300 ft. S, NE cor., Sec. 16-16-6 ..... Fishing D.S; T.D. 2,450 ft.

Southern Carbon Co.'s No. 1 W. E. Landers, 1,980 ft. N, 1,320 ft. E, SW cor., Sec. 10-16-6 ..... Derrick.

Southern Carbon Co.'s No. 1 L. S. Mulhern, 1,016 ft. W, 300 ft. S, NE cor. NW, Sec. 19-16-6 ..... Derrick.

Southern Carbon Co.'s No. 2 Mulhern, Sec. 19-16-6 ..... Derrick.

United Carbon Co.'s No. 1 W. M. Hallock, 1,980 ft. N, 660 ft. W, SE cor., Sec. 2-16-6 ..... Began drlg. Mar. 20; cmtd. 12½-in. 186 ft.

United Carbon Co.'s No. 2 Mulhein, 660 ft. S, 750 ft. E NW cor. NW, Sec. 30-16-6 ..... Derrick.

SABINE PARISH—PLEASANT HILL

Hatcher et als' No. 1 Moore heirs, 300 ft. N, 300 ft. E, C, Sec. 32-10-13 ..... Derrick.

F. A. Bartlett, Jr.'s No. 1 Logan, 200 ft. S, 200 ft. E, NW cor., Sec. 27-10-13 ..... Location.

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ALLIS-CHALMERS

TEXROPE DRIVES

THE PERFECT TRANSMISSION — **FOR EVERY PURPOSE**

Magnolia Pet. Co.'s No. 3 McLeroy, 330 ft. S, 300 ft. W, NE cor. W½ SE SW, Sec. 33-10-12 ..... Drlg. shale 3,279 ft.

SABINE PARISH—ZWOLLE

Ark. Fuel Oil Co.'s No. 1 Nunn, 330 ft. N, 330 ft. E, C, Sec. 32-8-12 ..... Tested dry 2,350 ft; arranging to deepen.

Air Lift Oil Co. and Root Refineries, Inc.'s No. 1 Leone, 150 ft. S, 150 ft. W, NE cor. S½ SE SW, Sec. 32-8-12 ..... Drlg. 2,170 ft.

Bahan & Ryan's No. 1 Mischel, 1,215 ft. N, 1,169 ft. W, SE cor. SW, Sec. 32-8-12 ..... Rig up.

Loring Oil Co.'s No. 2 Bowman-Hicks, 200 ft. S, 200 ft. W, NE cor. NE NW, Sec. 3-7-12 ..... Standing 280 ft oil 2,725 ft.

Loring Oil Co.'s (formerly Benedum & Trees Oil Co.'s) No. 3 Bowman-Hicks, 330 ft. S, 330 ft. W, NE cor. SE, Sec. 34-8-12 ..... Drlg. in cable tools; made one 50-bbl. head; T.D. 2,357 ft.

Loring Oil Co.'s (formerly Benedum & Trees Oil Co.'s) No. 4 Bowman-Hicks, 330 ft. N, 330 ft. W, C, Sec. 34-8-12 ..... Derrick.

Loring Oil Co.'s (formerly Benedum & Trees Oil Co.'s) No. 5 Bowman-Hicks, 900 ft. S, 1,400 ft. W, C, Sec. 34-8-12 ..... Drlg. 2,433 ft.

Loring Oil Co.'s (formerly Benedum & Trees') No. 6 Bowman-Hicks, 330 ft. N, 330 ft. E, SW cor. SE, Sec. 33-8-12 ..... Coring 2,487 ft.

Loring Oil Co.'s (formerly Benedum & Trees') No. 1 Sabine Lbr., 330 ft. N and E, C, Sec. 34-8-12 ..... Cmtd. 8¼-in. 2,340 ft; drilled plug; ran bailer to bottom; got 30 ft. oil; rigging up cable tools to drill in.

Loring Oil Co.'s (formerly Benedum & Trees') No. 7 Bowman-Hicks, 330 ft. S and W, NE cor. NW, Sec. 34-7-12 ..... Coring 2,504 ft.

Loring Oil Co.'s No. 8 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor, SW SE, Sec. 33-8-12 ..... Derrick.

G. H. Broderick's No. 1 Bolin, Sec. 31-8-12 (Zwolle Townsite) ..... Began drlg. Mar. 19; cmtd. 10-in. 88 ft; drlg. 1,000 ft.

Broderick & Calvert's No. 1 Sabine Lbr. Co., 150 ft. N, 150 ft. W, SE cor. SE SW, Sec. 31-8-12 (Zwolle Townsite) ..... Derrick.

R. L. Burch's No. 1 Sabine Lbr. Co., Sec. 31-8-12 ..... Drlg. 1,705 ft.

Joe Burnham et als' No. 1 Bolin, 200 ft. N, 408 ft. E, SW cor. SW NE, Sec. 31-8-12 ..... Cmtd. 6⅝-in. 2,175 ft.

J. R. Crawford's No. 1 Pearce, 408 ft. S, 200 ft. E, NW cor. SW SE, Sec. 32-8-12 ..... Rigging up.

Davis & Tyson's No. 1 Neville-Roberts, 300 ft. N, 275 ft. W SE cor. NW SW, Sec. 31-8-12 (Zwolle Townsite) ..... Drlg. 1,200 ft.

Dixie Oil Co.'s No. 1 Nunn, 330 ft. N, 85 ft. W, C, Sec. 32-8-12 ..... Cmtd. 6⅝-in. 2,275 ft.

Dooley & Howard's No. 1 Williams, Sec. 31-8-12 ..... Rig up.

Glassell & Merren's No. 1 Thomas, Lot 13, Blk. 3 (Zwolle Twp.), Sec. 31-8-12 ..... Drlg. 1,975 ft.

W. G. Gray, trustee's No. 1 Knowlton, 200 ft. S, 330 ft. W, NE cor. NW NE, Sec. 6-7-12 ..... Cmtd. 6⅝-in. 2,197 ft; drlg. plug.

G. A. Henshaw et als' No. 1-A Sabine Lbr. Co., 200 ft. N, 760 ft. E, SW cor. SE NE, Sec. 31-8-12 ..... Drlg. 1,800 ft.

G. A. Henshaw et als' No. 2-A Sabine Lbr. Co., 200 ft. N and E, SW cor. SE NE, Sec. 31-8-12 ..... Drlg. 2,465 ft.

G. A. Henshaw et als' No. 3-A Sabine Lbr. Co., 766 ft. N, 200 ft. E, SW cor. SE NE, Sec. 31-8-12 ..... Location.

G. A. Henshaw et als' No. 1-B Sabine Lbr. Co., 150 ft. S and E, C, Sec. 31-8-12 ..... Cmtd. 6⅝-in. 2,168 ft.

C. L. Jett, trustee's No. 1 Jones, 150 ft. C, Sec. 31-8-12 ..... S.D. 805 ft.

Herbert Oil Co.'s No. 1 Noble, 750 ft. S, 1,250 ft. E, NW cor. SW, Sec. 31-8-12 ..... Derrick.

F. M. Hood's No. 1 Winston, 460 ft. S, 290 ft. E NW cor., Sec. 31-8-12 ..... Rig up.

W. F. Lacey et als' No. 1 Knouse, Sec. 36-8-12 ..... Cmtd. 6⅝-in. 2,118 ft.

Lide et als' No. 2 Sabine Lbr. Co., 330 ft. S, 330 ft. W, NE cor. NW SE, Sec. 31-8-12 ..... 1,200 oil in hole; set 2-in. tubing and packer; would not flow; W.O.S.R; T.D. 2,224 ft.

Lloyd Oil Corp.'s No. 1 Barnett, Sec. 31-8-12 (Zwolle Townsite) ..... Rig up.

O'Brien Bros.' No. 1 Colquitt, 330 ft. S and E, NW cor. SW, Sec. 32-8-12 ..... Bailed dry 2,260 ft. and 2,405 ft; arranging to deepen.

Ohio Oil Co.'s No. 3 Bowman-Hicks, 330 ft. S and W, NE cor. SE SW, Sec. 33-8-12 ..... Drlg. 2,420 ft.

Ohio Oil Co.'s No. 4 Bowman-Hicks, 330 ft. N and E, SW cor. NW SW, Sec. 35-8-12 ..... Arranging test 2,372 ft.

Olsen Bros.' No. 1 Ferguson, 330 ft. N, 330 ft. E, SW cor. NW SE, Sec. 33-8-12 ..... Derrick.

Olsen Bros.' No. 1 Keeler, SW cor. SW SE, Sec. 27-8-12. W.O.S.R.

Olsen Bros.' No. 1 Leone, 150 ft. N, 250 ft. E, SW cor. SW NW, Sec. 32-8-12 ..... W.O.S.R; 400 ft. oil in hole; T.D. 2,575 ft.

Philp Bros.' No. 1 Dow, Lot 1, Blk. 18, Zwolle Townsite, Sec. 31-8-12 ..... Rig up.

Ray-Dawes Drlg. Co.'s No. 1 Mansfield Hwd. Lbr. Co., Sec. 36-8-13 ..... Cmtd. 6⅝-in. 2,115 ft.

Ruston Drlg. Co.'s No. 1 Bowman-Hicks, 330 ft. S, 330 ft. W, NE cor., Sec. 4-7-13 ..... 400 ft. oil in hole; W.O.S.R; T. D. 2,640 ft.

Ruston Drlg. Co.'s No. 1-A Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. SW SW, Sec. 35-8-13 ..... Drlg. 2,473 ft.

Ruston Drlg. Co.'s No. 2-A Bowman-Hicks Lumber Co., Sec. 35-8-12 ..... Derrick.

Sabine Lumber Co.'s No. 1 Fee, 150 ft. N, 150 ft. W center, Sec. 31-8-12 ..... Began drlg. Mar. 18; cmtd. 10-in. 89 ft; drlg. 1,000 ft.

Sabine O. & G. Co.'s No. 1 Anderson, 200 ft. N, 200 ft. E, SW cor. SW NW, Sec. 19-18-13 ..... Shot formation; bailing small show oil and gas; T.D. 2,603 ft.

C. E. Simmons' No. 1 Anderson, Sec. 31-8-12 (Zwolle Townsite) ..... Rig up.

Bob Elmore's (was C. E. Simmons') No. 1 Bolin, 116 ft. E. 126 ft. N, C, Sec. 31-8-12 ..... Rigging up to drill in with cable tools; T.D. 2,160 ft.

C. E. Simmons' No. 1 Leach, 435 ft. W, 113 ft. N SE cor. SW NW ..... Location.

W. S. Smith et als' No. 1 Colquitt (Zwolle Townsite), 500 ft. S, 480 ft. E NW cor. SW NE, Sec. 31-8-12. Derrick.

W. S. Smith et al's No. 1 Henderson, 200 ft. S, 300 ft. E NW cor. SE SE, Sec. 31-8-12 ..... Derrick.

W. S. Smith et als' No. 1 Williams (Zwolle Townsite), 804 ft. N, 40 ft. W SE cor. SW NE, Sec. 31-8-12.. Rig up.

Standard Oil Co.'s No. 1 L. N. Nunn, 990 ft. S, 330 ft. E, C, Sec. 32-8-12 ..... Coring 2,305 ft.

Stovall Drlg. Co.'s No. 1 Lefkovitz, 247 ft. N, 250 ft. W, SE cor. N¾ SE NW, Sec. 33-8-12 ..... Bailed dry 2,694 ft. and 2,699 ft; W.O.

A. H. Tarver's No. 1 Sabine State Bank, 250 ft. N, 250 ft. W, C, Sec. 27-8-12 ..... Bailing to test; T.D. 2,680 ft.

SABINE—BLUE LAKE

H. S. Autrey's No. 1 Long-Bell, 1,120 ft. S, 1,120 ft. W, NE cor., Sec. 35-8-14 ..... Location.

R. L. Gay's No. 7 Bowman-Hicks, Sec. 14-7-14 ..... Drlg. 912 ft.

R. L. Gay's No. 8 Bowman-Hicks, Sec. 18-7-13 ..... Derrick.

R. L. Gay's No. 4 Sabine Lbr. Co., Sec. 13-7-14 ..... Cmtd. 10-in. 338 ft.

Ruston Drlg. Co.'s No. 1-B Bowman-Hicks, 330 ft. S, 330 ft. E. NW cor., Sec. 24-7-14 ..... Rig up.

UNION PARISH

Greenwood Prod. Co.'s No. 1 Guinn, 1,980 ft. N, 660 ft. W, SE cor., Sec. 32-21-3 ..... Rig up.

W. S. Hall's No. 4 Spencer, 139 ft. N, 980 ft. W, SE cor. SW, Sec. 2-20-3 ..... Drlg. 1,550 ft.

Industrial Gas Co.'s No. 1-B Jenny, 660 ft. N, 660 ft. E, SW cor., Sec. 33-21-4 ..... Location.

United Carbon Co.'s No. 1 McInnis, 660 ft. N and E, SW cor. SE, Sec. 19-20-4e ..... Cmtd. 6-in. 2,098 ft; drlg. plug.

WEBSTER PARISH—SAREPTA AND SHONGALOO

Bateman et als' No. 3 Womble, 200 ft. S, 660 ft. E, NW cor. NW SW, Sec. 1-22-11 ..... W.O.S.R; 800 ft. fluid; T.D. 2,704 ft.

Pat Hudson's No. 1 B. L. Slack, 330 ft. W, 330 ft. N, SE cor. NW, Sec. 36-23-11 ..... 1,500 ft. fluid, 40% S.W; W.O.S.R; T.D. 2,741 ft.

Liggett et als' No. 1 Slack, 150 ft. N, 366 ft. W, SE cor. SW SE, Sec. 36-23-11 ..... Began drlg. Mar. 23; S.D. for wtr. 50 ft.

Magnolia Pet. Co.'s No. 3 Scoggins, 165 ft. N, 230 ft. W, SE cor. SW NW, Sec. 1-22-11 ..... Derrick.

Mt. Vernon Oil Co.'s No. 3 Pardee, 200 ft. S, 1,500 ft. E, NW cor. NE SW, Sec. 3-22-11 ..... Cmtd. 10-in. 247 ft; drlg. 500 ft.

Merritt & Merritt's No. 1 Boucher, 200 ft. N, 200 ft. E, SW cor. SE SE, Sec. 17-23-11 ..... Drlg. 2,800 ft.

ARKANSAS

JOHNSON COUNTY—CLARKSVILLE

Ark. La. P. L. Co.'s No. 1 Patterson, 1,020 ft. S, 2,570 ft. E, NW cor., Sec. 14-10-24 ..... Fishing slip; T.D. 2,900 ft.

NEVADA COUNTY

Roy Davis et als' No. 1 Chas. Henry, 1,120 ft. N, 1,120 ft. W, SE cor., Sec. 10-12-20 ..... Rig up.

C. F. Steele's No. 1 E. W. Groves, Sec. 21-14-20 ..... Shut down.

OUACHITA COUNTY—MOUNT HOLLY DISTRICT

McDonald Bros.' No. 2 Wilson, 700 ft. S, 275 ft. W, NE cor. NW SW, Sec. 25-15-18 ..... Coring 2,832 ft.

OUACHITA COUNTY—SMACKOVER

J. D. Reynolds' No. 3 Berg, NE cor. SE SW, Sec. 27-15-15 ..... Derrick.

J. D. Wingfield's No. 1 Martin, SW cor., Sec. 26-15-15 .. Set 6⅝-in. 2,085 ft; tested little oil and S.W; W.O; T.D. 2,115 ft.

OUACHITA COUNTY—STEPHENS

Magnolia Pet. Co.'s No. 2 Grayson, 150 ft. N, 200 ft. W, SE cor. NE, Sec. 21-15-19 ..... W.O.S.R; 200 ft. oil, 50 ft. S.W; T.D. 1,480 ft.

UNION COUNTY—CHAMPAGNOLLE

O. W. Estes' No. 1 Bates, 200 ft. N, 200 ft. E, SW cor., Sec. 13-17-14 ..... Began drlg. Mar. 21; cmtd. 10-in. 40 ft; drlg. 600 ft.

Magnolia Pet. Co.'s No. 1 Gregory, Sec. 15-17-14 ..... O.W.D.D; coring hard lime 3,037 ft; completed Aug. 16, 1928; 47,500,000 ft. gas 2,852 ft.

UNION COUNTY—EL DORADO

H. L. Hunt's No. 6 Pratt, 150 ft. N, 330 ft. E, SW cor. NE NE, Sec. 7-18-15 ..... Running sand pump; T.D. 2,214 ft.

Malloy & Co.'s No. 4 Goodwin, 300 ft. N, 300 ft. E, SW cor. NE NE, Sec. 36-17-16 ..... Drlg. in; T.D. 2,203 ft.

Malloy & Co.'s No. 1 Murphy, Sec. 1-18-16 ..... Rig up; W.V.

Malloy & Co.'s No. 3 Robertson, NE cor. S½ SW NE, Sec. 6-18-15 ..... Location.

Rice et als' No. 1 W. Ralty, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15 ..... Spudded July 18; cmtd. 10-in. at 92 ft.

Weisinger & Ball's No. 1 Rogers, 1,014 ft. N, 150 ft. E. SW cor. E½ SW SE, Sec. 31-17-15 ..... Drlg. out cmt; T.D. 2,170 ft.

UNION COUNTY—SMACKOVER

E. L. Chapman's No. 2 Bradley, 330 ft. N, 330 ft. E, SW cor. Lot 3, NW, Sec. 2-16-16 ..... 500 ft. fluid in hole; W.O.S.R.; T.D. 2,028 ft.

E. L. Chapman's No. 1 Epps, 330 ft. S, 330 ft. W NE cor. SE NE, Lot 7, Sec. 3-16-16 ..... Began drlg. Mar. 12; cmtd. 10-in. 98 ft; 6⅝-in. 1,950 ft.

EAST TEXAS

HARRISON COUNTY

Shell Rock Pet. Co.'s No. 1 Oliver Dougherty, W. D. Burris Sur. ..... S.D. for repairs; T.D. 1,360 ft.

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 11 Werner, 1,850 ft. S, 1,052 ft. W, NE cor. E. F. Mitcheson Sur. ..... Estimated 3,750,000 ft. gas 3,318 ft; W.O.

Calatex O. & G. Co.'s No. 3 Caldwell, 243 ft. S, 1,034 ft. W, SE cor. John Womack Sur., in Jas. Shadoin Sur. ..... S.D; W.O. 1,072 ft.

Magnolia Pet. Co.'s No. 2 G. C. Tiller, Jane Thorpe Sur. . Blew out 2,585 ft; estimated 4,500,000 ft. gas; arranging to re-cmt. at 2,700 ft; old T.D. 3,550 ft.

Magnolia Pet. Co.'s No. 6 G. C. Tiller, 393 ft. S, 1,990 ft. E, NW cor. Jane Thorpe Sur. ..... Plugged back from 3,425 to 2,380 ft; drilled out to 2,310 ft. and cmtd. 8⅛-in.

Nat. Gas Prod. Co.'s No. 8 Roquemore, B. C. Jordan Sur. . Drlg. 4,500 ft.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 56)

BROOKS COUNTY

Humble Oil & Ref. Co. and Shell Pet. Corp.'s No. 1 Singer, Alta Verde Subd., 2,500 ft. S and N line, 333 ft. W and E line of Section 312 ..... T. D. 4,101 ft.; drlg. in black shale and fossil formation.

CALDWELL COUNTY

W. E. Allaun and Calco Pet. Co.'s No. 1 Martin ..... T. D. 2,920 ft.; preparing to shoot.

Keen & Malcolm's No. 1 Mollie McNeal, George C. Kimball Sur., 2,500 ft. to W line, 860 ft. to N line, 1 mile S from old Luling Field ..... T. D. 2,190 ft.; set 6⅝-in. csg. at 2,070 ft.; to test oil show.

Herb. Morgan's No. 1 O. Perry, 2,600 ft. S line, 3,850 ft. W line of survey in the John D. Ranes Sur., 2 miles NE from Bruner Pool ..... T. D. 1,650 ft.; drlg. in shale.

S. H. Cargill's No. 1 B. Lynch, 150 ft. from S and E lines 50-ac. tract, in the B. Benton Sur. ..... T. D. 1,240 ft.; shut down; water in hole.

G. R. McIntire's No. 1 J. G. Towns, in the I. Weldon Sur., 4,900 ft. to NE line, 1,350 ft. to SE line of Sur.. T. D. 2,630 ft. in chalk; shut down.

Trinity Drillers' No. 1 McMullen, 2,125 ft. from NE line, 150 ft. from NW line of Sur., Gibson Betty Sur. ..... T. D. 1,870 ft.

DEWITT COUNTY

Gibson & McIntyre's No. 1 William Van Roeder ..... T. D. 1,480 ft.; shut down.

Republic Prod. Co.-Simms Pet. Corp.'s No. 1 E. T. Clark 778-ac., 1,450 ft. from SE line, 7,500 ft. from SW line of tract in the Jose Santos, 4 miles S from Yorktown ..... Moving in material.

H. T. Roe's No. 1 Leinhardt ..... T. D. 1,800 ft.; working over machinery to start up.

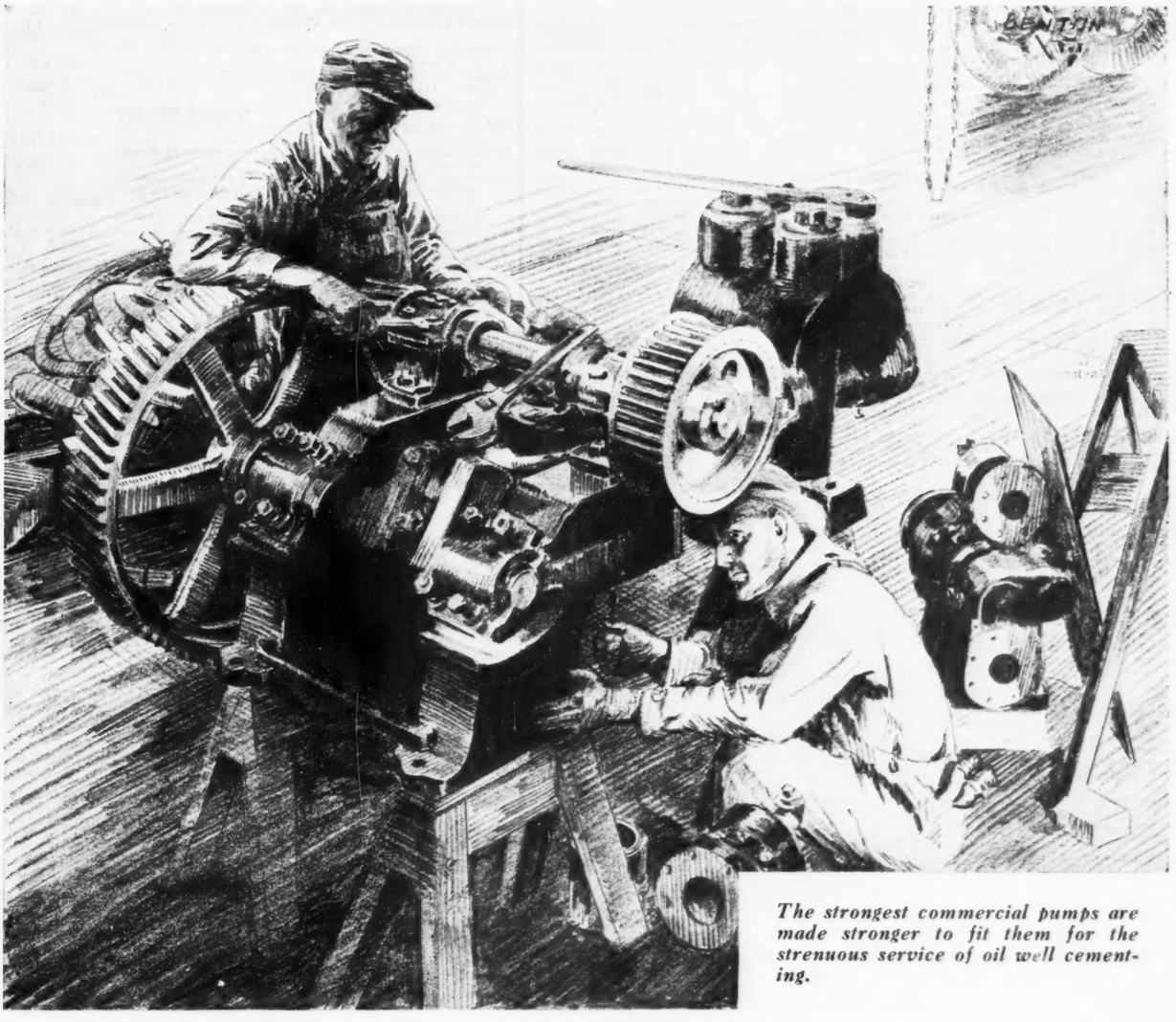
DUVAL COUNTY

T. W. Callahan and W. M. Howard's No. 1 J. M. Luby, 3,960 ft. N line, 3,960 ft. W line Sur. 24 ..... Moving on.

National Oil Co.'s No. 2 Ball, Agua Poquita Sur., Blk. 3.. T. D. 3,607 ft.; drlg.

Southern Crude O. P. Co.'s No. 1 John Dinn, 3,450 ft. S line, 119 ft. W line of Sur. 480 ..... Rigging up.

Southern Oil Co.'s No. 1 Welder Wood, Sur. 215 ..... T. D. 750 ft.; standing waiting on water.



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EDWARDS COUNTY

Phillips Pet. Corp.'s No. 2 A. G. Holman, 330 ft. from N and E lines of SE of tract, C.C.S.D.&N.G.R.G. Sur. No. 25 ..... Location.
Griffith's No. 1 Wardlaw, 150 ft. from S line, 1,505 ft. from Sec. 60, Blk. US, J. J. Clift Sur. ..... T. D. 3,000 ft.; shut down, contract depth.

FRIO COUNTY

Frank B. LeFeure's No. 1 H. W. and R. L. Eschenburg, Edward Gallagher Sur. No. 789, 3,980 ft. W of SE cor. of Edward Gallagher Sur. No. 788 and 1,320 ft. S of N line of Edward Gallagher Sur. No. 789 ..... T. D. 2,595 ft.; drlg. broken chalk.
Walton & North's No. 1 Trebble, 150 ft. N line, 160 ft. E line, Sec. 64, in the Henry Castro Sur. ..... T. D. 1,500 ft.; shut down; working on titles.

FAYETTE COUNTY

Kelly et al's No. 1 E. M. Burke, in the C. J. A. Weaver Sur. ..... T. D. 488 ft.; shut down.
Moore et al's No. 1 Kerr, 250 varas S of CNL of M. Muldoon lease ..... T. D. 2,485 ft.; shut down.
Muldoon Oil Co.'s No. 1 J. A. Kerr, 2,900 ft. from S, 3,250 ft. from W of M. Muldoon Sur., 2 miles W of Muldoon ..... T. D. 2,200 ft.; shut down.

GOLIAD COUNTY

Wm. F. Morgan's No. 1 George Ray, in Pedro Trevano Sur., 150 ft. from SE and NW line of George Ray 627-ac. tract ..... T. D. 4,202 ft.; drlg. in shale.
Humble Oil & Ref. Co.'s No. 1 Lackey & Weldon, 2,000 ft. from SE and SW lines of the Lackey & Weldon 1,000-ac. tract out of the most SW cor. thereof, in the Javiano Gomez Sur. ..... Preparing to set surface csg.

GONZALES COUNTY

Acme Oil & Royalty Corp.'s No. 1 Weber, Thomas Wright Sur. ..... T. D. 2,340 ft.; coring sand (depth corrected).
Fitzsimmons & Perrinot's No. 1 Z. Huber, 2,100 varas from NW line, 1,450 varas from NE line (river) of survey, 2¾ miles SE of Darst Creek, in Stephen Smith Sur. ..... T. D. 2,565 ft.; shut down; working on rig.
Atibus et al's No. 1 C. Martin, 268 ft. from N line, 2,650 ft. W line 210-ac. tract in the M. A. Williams Sur. ..... T. D. 400 ft.; drlg.
Alice R. Garrett's No. 1 W. H. Cardwell, 150 ft. from SW line, 1,650 ft. from SE line of Sur., 12 miles S from Gonzales, in the Byrd Lockhart Sur. ..... Spudded and shut down.
United North & South Dev. Co.'s No. 2 J. A. Kerr, 1,150 ft. S line, 750 ft. W line of tract in the A. K. Clark Sur. ..... T. D. 1,665 ft.; drlg. in sandy shale.
Finnell & Elam's No. 1 J. F. Robinson, 2,000 ft. N line, 4,420 ft. E line, in the J. H. Livergood, 2½ miles NE from Waelder ..... T. D. 109 ft.; set 10-in. csg.; lost first hole; moved 200 ft. W and drlg. second.

GUADALUPE COUNTY

Trinity Drillers et al's No. 1 Wm. Harboth (212-ac.), 1,000 ft. from NE line, 4,500 ft. from NW line of the Robert Hall Sur. ..... T. D. 2,642 ft.; dry; abandoned.
Turman et al's No. 1 St. Charles, 150 ft. N line, 300 ft. from W line of Sur., 5 miles SW of Grayburg's No. 1 Wells, SE cor. of county, in the J. A. Miller Sur. ..... T. D. 3,902 ft.; drlg. in Edwards; core show salt water.
Trinity Drillers' No. 1 J. M. White, 975 ft. from NE line, 750 ft. from SE line of 166-ac. farm, in the Mich Miller Sur. ..... Rigging up.

JIM WELLS COUNTY

E. W. Ogden's No. 1 G. Farris, M. Perez Sur. ..... T. D. 2,615 ft.; shut down.

KARNES COUNTY

Ruby & Claypool's No. 1 Tom V. Zepeda Sur., 850 ft. N line, 1,600 ft. E line ..... T. D. 2,838 ft.; drlg.; top of Jackson 2,129 ft.
Hewitt et al's No. 1 H. N. Matula, 450 ft. from E and center of NW and SE lines of 125-ac. farm, in the Victor Blanco Sur. ..... Rigged up to spud.
Mundine Investment Co.'s No. 1 A. D. Wilburn, C of 143 ac. in H. K. Hardy Sur., 3 miles SE from Dunge ..... Location.
Hewitt et al's No. 1 W. E. Porter ..... T. D. 3,650 ft.; drlg.

KENDALL COUNTY

Borgett et al's No. 1 Haag, W. Avery Sur. ..... T. D. 700 ft.; shut down; tools hung in well.
Sinton et al's No. 1 Garvin, C of NE of D. L. Richardson Sur. in the D. L. Richardson Sur., 1 mile NE from Kendalia ..... Spudded in.
Seaboard Oil & Gas Co.'s No. 1 W. Asken, SW cor. of Sur. in the Miguel die Toro Sur., 3 miles N from Sisterdale ..... T. D. 376 ft.; drlg. in black shale.
Dixon Oil Co.'s No. 1 Ottmer Behr, W of H.T.&B.R.R. Sur., 3½ miles SE from Sisterdale ..... T. D. 500 ft.; setting 10-in. csg.
Sterling's No. 1 Willie Werner, 2 miles NW from Borgett's No. 1 Haag ..... T. D. 914 ft.; shut down; pump installed.

KERR COUNTY

Mashe & Tunstill's No. 1 Love Ranch, 1,000 ft. from W line of Sec. 1,594, 100 ft. S of S line of Sec. 1,597, in the G.C.S.D.&R.G.N.G. Sur. ..... Moving in.

KLEBERG COUNTY

Bowen-Sarles' No. 1 Robert H. Simmons, Sec. 7, King Subd., 3 miles W from Ricardo ..... T. D. 415 ft.; standing.

KINNEY COUNTY

Lloyd Oil Co.'s No. 1 G. B. Moore, Sur. 117 ..... T. D. 3,000 ft.; producing sulphur water.
Magnolia Petroleum Co.'s No. 1, SE cor. of Baldz Sur., near S.P.R.R., close to Blume test on Wardlow ranch, W part of county, 2½ miles from Blume ..... Moving in tools.
A. Blume et al's No. 2 Herbst, 1,731 ft. W and S lines of Sur., in the Poindexter-Burns Sur. ..... Spudded in.
Mardon Oil Co.'s No. 2 Jim Clamp, in the John Winter Sur. No. 346, Near No. 1 ..... T. D. 415 ft.; drlg. in chalk.

LASALLE COUNTY

Salt Lake City Pet. Co.'s No. 1 Beckwith, Sur. 17, 150 ft. S line, 150 ft. E line ..... T. D. 2,760 ft.; standing.

LAVACA COUNTY

McElreath & Suggett's No. 1 Julius Heinshohn, 361 ft. to E, 523 ft. to S line of farm, in the G.W.&W.H. Sur. ..... Derrick.

LEE COUNTY

Byrd et al's No. 1 H. L. Bastle, 1,200 ft. N and 1,000 ft. E of 80-ac. tract of Wm. Johnson ..... T. D. 3,612 ft.; shut down; hole full of water.
Texas-Louisiana Carbon Corp.'s No. 1 Bryan, in the S. F. Austin Sur., 1,200 ft. N and W of 1,200-ac. farm ..... T. D. 3,380 ft.; drill stem stuck.
Todor Oil Corp.'s No. 1 H. Zsesch, in the J. Meeks Sur., 150 ft. N and 900 ft. W of S. Meeks Sur. ..... T. D. 2,000 ft.; shut down.

LIVE OAK COUNTY

O'Neil & Catlett's No. 1 Smith, 900 ft. SW line, 150 ft. NW line ..... T. D. 4,512 ft.; standing; prep. to deepen.
Houston Oil Co.'s No. 1 R. Boothe, 3,000 ft. from W line, 300 ft. S line, in the M. B. Kilvin Sur. ..... Rigging up.
Dr. J. K. Rowan Co.'s No. 1 Lynne Ranch, 171 ft. W of George West ..... Abandoned.
Simmons Oil Co.'s No. 1 Richard Coquat, in James C. Hill Sur., 2,250 ft. to S line, 1,750 ft. to E line, 7 miles NE of Oakville ..... T. D. 4,012 ft.; shut down; awaiting orders.

MAVERICK COUNTY

Rycade Oil Corp.'s No. 6 Chittim, 1,455 ft. from S, 320 ft. from W of Sec. 116, Blk. 7, L&G.N. Sur. ..... T. D. 1,250 ft.; drlg.
Rycade Oil Corp.'s No. 5 Chittim ..... T. D. 3,442 ft.; standing; hole full sulphur water.
Rycade Oil Corp.'s No. 5 Sullivan, in C of Sec. 82, Blk. 7, in the L&G.N. Sur. ..... T. D. 2,540 ft.; drlg. in lime.
Rycade Oil Corp.'s No. 3 Chittim, Blk. 7, Sur. 116, H.& G.N., 175 ft. N of No. 1, 10 ft. W, 225 ft. S line ..... T. D. 6,636 ft.; shut down for orders.

MEDINA COUNTY

Pat Armstrong's No. 1 C. W. Butts, in George C. Hanson Sur. ..... T. D. 1,102 ft.; shut down.
Pan American Pet. Co.'s No. 1 Antoine Hart, in Harrison Sur. No. 799, 15 miles S from Hondo ..... T. D. 250 ft.; drlg.
Donaldson Oil & Dev. Co.'s No. 2 Adams Co., James Hillenmeyer No. 25 Sur., 500 ft. to E line of Sur., 150 ft. to S line of N half of Sur. ..... Rig up.
F. E. Tegler's No. 6 J. P. Nixon, NW cor., J. J. Durst Sur. No. 14 ..... T. D. 950 ft.; comp. 5 bbls. per day.
Pat Armstrong's No. 1 Crawford, 1,389 ft. N line, 2,550 ft. E line of Sur., 478.6 miles W from Devine ..... Rigging up.
Pure Oil Co.'s No. 1 Nick F. Fahn, in Amos Hudson Sur. No. 587, near NW line of Sur. ..... T. D. 1,700 ft.; approx.; drlg. in lime.

MILAM COUNTY

Service Oil & Gas Co.'s No. 1 Muldrow, L. Taylor Sur., SE cor. ..... Location.
Hill & Ronwell's No. 1 B. Booker, James Welch Sur. ..... Fishing 2,020 ft.
Lloyd Oil Corp.'s No. 1 San Clement, Fokes Sur. ..... Spudded in.
A. H. Wray's No. 1 D. D. Fowler ..... T. D. 1,688 ft.; sidetracked; 360 ft. of drill pipe lost in hole; now drlg.

McMULLEN COUNTY

Southern Crude Oil Purch. Co.'s No. 1 J. B. Baker, 2,310 ft. from S and E lines of Sec. 7, in the F. M. Lowe Sur. ..... T. D. 3,265 ft.; drlg. in sticky shale.

NUECES COUNTY

H. Grimm et al's No. 1 A. R. Roberts, Blk. 79, Winter Vegt. Garden Subd., 6 miles NW of Robstown, 12 miles NE Agua Dulce Field ..... T. D. 3,145 ft.; cored dry sandy shale.

SAN PATRICIO COUNTY

George B. Pickett's No. 1 Baldwin, 9,000 varas due E of Denton, 1,200 ft. S of the SE cor. of O'Niel Sur., Abstract 211 ..... T. D. 1,060 ft.; set 10-in. surface csg. at 1,060 ft.; W.O.C.
LaFeria Oil & Gas Co.'s No. 1 C. C. Smith, in J. C. White Sur., 690 ft. to N line, 350 ft. to E line ..... T. D. 2,252 ft.; standing.

STARR COUNTY

Smith & Adams' No. 1 Welch, Perdernal Sur. ..... T. D. 841 ft.; drlg.

UVALDE COUNTY

Waldrop & Welch's No. 1 H. S. Benson, 2 miles NW of Uvalde ..... T. D. 970 ft.; shutting off water in Edwards lime.
Waldrop & Welch's No. 1 E. R. Edmonds, 1,750 ft. NW, 7,200 ft. W of Sec. 71, in the A. Gomez Sur., 8 miles S from Uvalde ..... T. D. 750 ft.; shut down (depth corrected) Jim Edwards lime.
Phantom Oil Co.'s No. 1 Claudt, Sec. 661 ..... T. D. 1,190 ft.; drlg. in lime.

WILLACY COUNTY

Weimer-Richardson's No. 1 Elmore ..... T. D. 1,860 ft.; shut down in gumbo.

WILLIAMSON COUNTY

Harlem et al's No. 1 H. H. Stiles, in the J. Bevil Sur., 220 ft. N and 330 ft. E of Sur. ..... Rigging up.
Fred Beatty's No. 1 H. Bland, 450 ft. from N line, 1,000 ft. from E line of tract, in the P. Coursey Sur., 1 mile east from Taylor ..... T. D. 1,176 ft.; shut down.
Fred Beatty's No. 1 J. B. Pumphrey, 1,328 ft. from S and E lines of Mrs. J. B. Pumphrey 168-ac. tract, in the W. Cartwright Sur. ..... Rigging up.
C. P. Link's No. 1 T. P. Simmons, 150 ft. W of CEL, in the S. Miller Sur. ..... Location.
E. L. Chapman's No. 1 Fuchs, in the S. Miller Sur. ..... T. D. 2,017 ft.; swabbing; very little oil.
E. L. Chapman's No. 2 Fuchs, 150 ft. SW line, 750 ft. NW line of 93-ac. tract, in the S. Miller Sur. ..... T. D. 1,000 ft.; drlg.
G. B. Peterman's No. 2 J. C. Abbott, 450 ft. from S and W line of Abbott 100-ac. tract, in the Simon Miller Sur., SE from Thrall ..... Rigging up.
Bridwell et al's No. 1 H. L. Martin, 1,150 ft. from N line, 150 ft. from W line of Simon Miller Sur. ..... Rigging up.
McNeil et al's No. 1 R. L. Abbott, 330 ft. NW line, 150 ft. NE line of Abbott 15-ac. tract, in the S. Miller Sur. ..... Spudded in.
Powell & Kykendall's No. 1 Christian Mager, in the W. Byerly Sur., 150 ft. N and 450 ft. E of farms of 150 acres ..... Old well deepening.
E. L. Chapman's No. 3 W. Fuchs, 170 ft. from S, 758 ft. E of NW cor. of R. L. Abbott farm, or 350 ft. E of No. 2, in Simon Miller Sur. ..... Derrick.
E. L. Chapman's No. 1 Barney Lawrence, 330 ft. from SE and SW lines of farm, in the Simon Miller Sur. ..... Rigging up.
E. L. Chapman's No. 1 J. F. McConnell, 150 ft. from S and W of 100-ac. farm, in the Simon Miller Sur. ..... Derrick.
E. R. Ertell's No. 1 J. F. McConnell, 295 ft. from N line, 180 ft. from W of S 50-ac. of 100-ac. farm, in the Simon Miller Sur. ..... Derrick.
Keeshan et al's No. 1 R. L. Abbott, 170 ft. from N line, 772 ft. from W line of farm, in the Simon Miller Sur. ..... Derrick up.
E. W. Marts et al's No. 1 R. L. Abbott ..... Spudded in.
Taylor Temple Oil Co.'s No. 1 F. M. Cain, 876 ft. from E line, 150 ft. from N line of C. D. Johnson 109-ac. tract, in the S. Miller Sur. ..... Rigging up rotary.
J. A. Thompson's No. 1 T. H. Martin, 150 ft. N and E lines of 20-ac. tract, in the S. Miller Sur. ..... Location.
Westheimer & Daube's No. 1 R. L. Abbott, 150 ft. from N and W lines of 57-ac. tract, in the S. Miller Sur. ..... Location.
R. Wilder's No. 1 H. T. Martin, 158 ft. from N and E lines of H. T. Martin 76.25-ac. tract, in the S. Miller Sur. ..... Rigging up rotary.
Simms Oil Co.'s No. 1 L. E. Lawrence, 150 ft. from N line, 150 ft. from W line of Lawrence 100-ac. tract, in the Simon Miller Sur., SE from Thrall ..... T. D. 2,619 ft.; shut down; no oil; dry.
L. W. Wilson et al's No. 1 W. L. Lawrence, 150 ft. from W line and C N and S of 35-ac. tract or 1,400 ft. from SW line, 1,450 ft. SW line of H. Owens Sur. ..... Spudded in.

WILSON COUNTY

Empire Gas & Fuel Co.'s No. 1 Shook, 1,350 ft. NW line, 7,100 ft. SW line, Vincente Zepeda Sur. ..... T. D. 3,710 ft.; dry and abandoned.

ZAPATA COUNTY

John Pappas' No. 2 Cuellar, Por. 33 and 34 ..... T. D. 1,890 ft.; sand 1,880-90 ft. shows gas.
B. F. Nixon's No. 1 A. Gutierrez, 170 ft. S line, 332 ft. E line, Lot 5, Blk. 8, Partition 10, Borrego grant ..... Location.
National Oil Co.'s No. 1 D. B. Adams ..... T. D. 690 ft.; shut down; lack of water; making considerable gas.

ZAVALA COUNTY

Weigand Bros.' No. 1 W. L. Gates, Hooper & Wade Sur. No. 13, 1,320 ft. S of N line, 1,320 ft. W of NE cor. Sur., about 16 miles S of Batesville ..... T. D. 1,920 ft.; drlg. in lime.

Jack Baldwin's No. 1 J. R. Price, in the W. E. Erskin Sur. No. 34 ..... Spudded in and shut down.
Southern Crude Oil Purch. Co.'s No. 1 Nat M. Washer, in the T. Pinckhardt Sur. No. 180, 1 deg. E, 6,795 ft. from SE cor. ..... T. D. 3,065 ft.; shut down; repairing rig.
Ike Pryor's No. 1 Martha Campbell, 400 ft. from N line, 5,400 ft. from E cor. of Sur., Sec. 99, in the Martha Campbell Sur., 3½ miles NE from La Pryor.. T. D. 1,300 ft.; shut down.
F. Baldwin's No. 1 Washer, 300 ft. S and E of Sec. 34, in the W. E. Erskine Sur. ..... Spudded in and shut down.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 54)

Humble & Valley's No. 4 Sherrill ..... Drlg. shale and lime 1,600 ft.
Humble & Valley's No. 6 Thompson ..... Comp. flowing 193 bbls. net oil 3,430 ft.
Humble & Valley's No. 7 Thompson ..... Derrick.
Humble & Valley's No. 7 Urban ..... Shut down 1,165 ft.
Humble & Valley's No. 8 Thompson ..... Drlg. sand 743 ft.
Humble & Valley's No. 6 Woodley ..... Derrick.
Humble & Valley's No. 7 Woodley ..... Derrick.
Humble & Valley's No. 8 Woodley ..... Derrick.

DE WALT—FORT BEND COUNTY

Humble Oil & Ref. Co.'s No. 3-B Bankers Mortgage ..... Set screen to test 3,717 ft.
Humble Oil & Refg. Co.'s No. 13 Brazos ..... Rig.
Humble Oil & Refg. Co.'s No. 14 Brazos ..... Drlg. shale and lime 1,776 ft.
Humble Oil & Ref. Co.'s No. 13 Sugarland ..... Rig.
Humble Oil & Ref. Co.'s No. 9 Nelson ..... Comp. flowing 450 bbls. 3,742 ft.

HUMBLE—HARRIS COUNTY

Benedum & Trees' No. 1 Foley, south ..... Rig.
Continental Oil Co.'s No. 1 Koltar, south ..... Drlg. hard sand and lime 2,955 ft.
Houtex Oil Co.'s No. 1 O'Boyle, west ..... Drlg. hard shale 3,821 ft.
Humble Oil & Refining Co.'s No. 11 Williams, south ..... Drlg. hard sand and lime 2,285 ft.
Humble Oil & Ref. Co.'s No. 12 Williams ..... Location.
M. LaRue's No. 1 Cicero ..... Drlg. sand and shale 3,300 ft.
T. P. Lee's No. 1 Wheeler & Pickens, east ..... Drlg. sand rock 525 ft.
Lee & Wilson's No. 1 Bender, west ..... Derrick.
Rio Bravo Oil Co.'s No. 1 fee, west ..... Drlg. sticky shale 3,470 ft.
Showers & Moncrief's No. 1 Hull ..... Drlg. shale 3,910 ft.
South Texas Petroleum Co.'s No. 4 Lee, south ..... Abandoned location.
Southern Drlg. & Prod. Co.'s No. 1 Allo ..... Drlg. shale and lime 3,915 ft.
Cullen & West's No. 2 Burt, east ..... Drlg. sand showing oil 4,750 ft.
Sun Oil Co.'s No. 4 Bender, west ..... Drlg. shale 4,263 ft.
Sun Oil Co.'s No. 48 River, north ..... Derrick.
The Texas Company's No. 16 Koehler (workover) ..... Comp. flowing 900 bbls. daily 3,070 ft.
The Texas Company's No. 24 House, north ..... Testing sand showing oil 3,515 ft.
The Texas Company's No. 271 Landslide ..... Drlg. sand and boulders 848 ft.

BLUE RIDGE—FORT BEND COUNTY

Sinclair Oil & Gas Co.'s No. 1 Blakely ..... Drlg. 3,600 ft.

PIERCE JUNCTION—HARRIS COUNTY

Continental Oil Co.'s No. 2 Prudential (workover) ..... To pump 4,320 ft.
Navarro Oil Co. and Texas Exploration Co.'s No. 18 Dooley ..... Bailed salt water 4,691 ft.; to deepen.
Rio Bravo Oil Co.'s No. 12-A Settegast (workover) ..... Drlg. gumbo and lime 3,370 ft.
Rio Bravo Oil Co.'s No. 13-A Settegast (workover) ..... Milling 3,325 ft.
Rio Bravo Oil Co.'s No. 18-A Settegast, west ..... Derrick.
Rio Bravo Oil Co.'s No. 19-A Settegast ..... Location.
Saxet Gas Co.'s No. 6 Herman, southwest ..... Standing.
Saxet Gas Co.'s No. 7 Herman, southwest ..... Derrick.
Superior Oil Co.'s No. 3-A Whitehead ..... Pumped dry; abandoned 4,228 ft.

LIBERTY—LIBERTY COUNTY

The Texas Company's No. 6 Green, northwest ..... Drlg. water sand 2,661 ft.

HULL—LIBERTY COUNTY

The Texas Company's No. 1 Barrow fee ..... Rig.
The Texas Company's No. 8 Hannah-Vacuum ..... Fishing drill pipe 5,067 ft.

BIG CREEK—FORT BEND COUNTY

Benedum & Trees' No. 1 J. F. Ahlers ..... Derrick.
Benedum & Trees' No. 1 Moore ..... Abandoned 4,178 ft.
Gulf Production Co.'s No. 21 Davis (workover) ..... Rigging up to deepen.
Navarro Oil Co.'s No. 4 Hausler ..... Drlg. shale 3,794 ft.
The Texas Company's No. 4 fee (workover) ..... Comp. pumping 20 bbls. 4,336 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 10 Mayes ..... Set 120 ft. screen 2,816 ft.; bailed dry.
Pure Oil Co.'s No. 11 Mayes ..... Rig.
Pure Oil Co.'s No. 4 Lost Lake ..... Drlg. cap rock 4,378 ft.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 26 Wisdom ..... Total depth 6,058 ft.; washing 5,936 ft.

SOUR LAKE—HARDIN COUNTY

Lake View Oil Co.'s No. 8 Minor ..... No report.
Gilbert Oil Co.'s N. 107 Gilbert ..... Derrick.
M. E. Peveto's No. 1 Merchant ..... No report.
The Texas Company's No. 305 fee ..... Comp. pumping 4 bbls. 898 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 80-A Cotton ..... To pump 503 ft.
Rio Bravo Oil Co.'s No. 80-B Cotton ..... Comp. flowing 10 bbls. oil 404 ft.
Rio Bravo Oil Co.'s No. 80-C Cotton ..... Set 10-in. casing 200 ft.

GOOSE CREEK—HARRIS COUNTY

Humble Oil & Ref. Co.'s No. 77 Simms-Smith ..... Sand and shale showing oil 5,835 ft.; cem. 9⅝-in. casing 5,795 ft.
A. F. Bradbury's No. 5 Gillette ..... No report.

SPINDLETOP—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 61 McFaddin (workover) ..... No report.
Yount Lee Oil Co.'s No. 79 McFaddin (workover) ..... Pulling screen to deepen.
Yount Lee Oil Co.'s No. 97 McFaddin (workover) ..... No report.
Yount Lee Oil Co.'s No. 124 McFaddin ..... Drlg. sand 5,106 ft.
Yount Lee Oil Co.'s No. 126 McFaddin ..... Comp. flowing 1,250 bbls. oil 4,897 ft.
Yount Lee Oil Co.'s No. 127 McFaddin ..... Drlg. 5,320 ft.
Yount Lee Oil Co.'s No. 128 McFaddin ..... Drlg. 2,500 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Saxet Oil Co.'s No. 3 Hogg ..... Derrick.

NORTH DAYTON—LIBERTY COUNTY

V. H. Borsodi's No. 1 Gulf ..... Drlg. gumbo 1,420 ft.
John A. Deering's No. 6 fee ..... Standing.
Humble Oil & Refining Co.'s No. 1 Jamison, south ..... Total depth 5,043 ft.; plugged to 4,942 ft.
Harrison Oil Co.'s No. 1 Jamison ..... Tested salt water 5,043 ft.; sidetracking.
Harvey Smith's No. 1 Simmons & Brown ..... Fishing drill stem 3,980 ft.
The Texas Company's No. 1 Paraffine fee ..... Drlg. 3,510 ft.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 5-A Smith ..... Drlg. sand and shale 5,855 ft.
Marrs McLean's No. 17 Cade ..... Drlg. gumbo 3,729 ft.

ORCHARD—FORT BEND COUNTY

Gulf Production Co. No. 21 Moore ..... Started drilling.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 14 Rooke ..... Cored hard sandy shale 3,646 ft.
Houston Oil Co.'s No. 1 Tom Heard ..... Drlg. gumbo 5,224 ft.
Houston Oil Co.'s No. 1 Shelton ..... Comp. flowing 400 bbls. pipe line oil 3,664-82 ft.
Houston Oil Co.'s No. 1 Dorsey ..... Comp. flowing 450 bbls. pipe line oil 3,695 ft.
Houston Oil Co.'s No. 1 Doughty ..... Drlg. shale and lime 4,865 ft.
Houston Oil Co.'s No. 1 Leisering ..... Drlg. sticky shale and gumbo 3,327 ft.
Houston Oil Co.'s No. 1 Vance ..... Spudded.
Houston Oil Co.'s No. 1 Kay ..... Spudded.
Houston Oil Co.'s No. 9 Fannie Heard (workover) ..... Oil sand 3,703-18 ft.; cem. casing.
Independent Oil & Gas Co.'s No. 1-C Heard ..... Drlg. sticky shale 4,994 ft.
Independent Oil & Gas Co.'s No. 3 Claude Heard ..... Comp. flowing 1,400 bbls. oil 3,696 ft.
Independent Oil & Gas Co.'s No. 4 Claude Heard ..... Cem. 12½-in. casing 476 ft.
Independent Oil & Gas Co.'s No. 5 Claude Heard ..... Rig.
Independent Oil & Gas Co.'s No. 1 Huddleston ..... Location.
Independent Oil & Gas Co.'s No. 1 Mercy Academy ..... Drlg. shale 4,207 ft.
Independent Oil & Gas Co.'s No. 1 Helen Reilly ..... Drlg. sand 3,690 ft.
Independent Oil & Gas Co.'s No. 1 M. F. Lambert ..... Spudded.
Independent Oil & Gas Co.'s No. 3 West ..... Oil sand 3,677-80 ft.; cem. 9⅝-in. casing 3,676 ft.
Karona Oil Co.'s No. 1 Zarsky ..... Comp. flowing 700 bbls. pipe line oil 3,699 ft.
Edwin M. Jones' No. 1-A J. F. B. Heard ..... Flowed 2 hrs. and sanded 3,682 ft.; reworking.
Edwin M. Jones' No. 1-A Mitchell ..... Location.
Edwin M. Jones' No. 1 Jeter ..... Sidetracked and drilling 3,590 ft.
Larco Co.'s No. 4 Strauch ..... Spudded.
Mission Drlg. Co.'s No. 1 O'Brien ..... Oil sand 5,406-27 ft.; cem. casing to set.
Mission Drlg. Co.'s No. 1 Moss ..... Tested salt water 5,493 ft.; plugging to 5,490 ft.
T. P. Morgan's No. 1 City ..... Abandoned location.
T. P. Morgan's No. 1 St. Johns ..... Rig.
Morgan Oil Corp.'s No. 1 Powers ..... Drlg. hard sticky shale 5,522 ft.
Morgan Oil Corp.'s No. 6 Town Commons ..... Drlg. broken lime 316 ft.
Morgan Oil Corp.'s No. 7 Town Commons ..... Rig.
Pearson Properties' No. 1 Johnson ..... Drlg. gumbo 2,750 ft.
Rutherford-Traylor Oil Co.'s No. 1 Cable ..... Drill stem stuck; shut down 2,704 ft.
Saxet Oil Co.'s No. 2 Ryals ..... Spudded.
Saxet Oil Co.'s No. 2 Cable ..... Spudded.
Strube & Strube's No. 1 Cable ..... Fishing drill pipe 3,682 ft.
Sun Oil Co.'s No. 3 Buckley, Lot 5, Blk. 2 ..... Sidetracking stuck drill stem 2,690 ft.
The Texas Company's No. 1 Shelton ..... Plugged to 3,687 ft.; cem. 8¼-in. casing 3,670 ft.
Union Producing Co.'s No. 3 Lambert ..... Drlg. gumbo and lime 4,738 ft.
Union Producing Co.'s No. 3 Morgan-Shelly ..... Rig.
Union Producing Co.'s No. 3 Morgan-Vance ..... Cored salt water sand 3,625-27 ft.
Union Producing Co.'s No. 3 O'Brien ..... Cored gas sand 3,666-68 ft.
Union Producing Co.'s No. 4 O'Brien ..... Drlg. sandy shale and lime 2,900 ft.
Union Producing Co.'s No. 4 Shelley ..... Drlg. shale and lime 3,176 ft.
Ed Price et al's No. 1 Mission River ..... Oil sand 3,647-61 ft.; cem. 6⅝-in. casing 3,647 ft.
Union Producing Co.'s No. 2 Powers ..... Rigging.
Union Producing Co.'s No. 4 Powers ..... Location.
Union Producing Co.'s No. 2 Shelton ..... Location.
Union Producing Co.'s No. 3 Mitchell ..... Drlg. rock 1,111 ft.
Union Producing Co.'s No. 4 Mitchell ..... Location.
Union Producing Co.'s No. 1-A Rose Lambert ..... Total depth 6,475 ft.; cem. 5 3/16-in. casing 6,475 ft.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Vacuum Oil Co. and Gulf Ref. Co.'s No. 25 Miller ..... Drlg. sand and shale 4,056 ft.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 26 Miller ..... Rig.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 27 Miller ..... Rig.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 5 Freiberg & Wolf ..... Derrick.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 17 Watkins ..... Derrick.
Calcasieu Oil Co.'s No. 5 Caldwell ..... No report.
Duhon Oil & Mineral Co.'s No. 1 Duhon ..... Derrick.
Sunshine Oil Co.'s No. 6 Ellender ..... Comp. flowing 300 bbls. fluid, 50 per cent water, 3,290 ft.
Rex Petroleum Corp.'s No. 1 Duhon ..... Bailed dry; standing.
Rycade Oil Corp. and Humble's No. 5 Gulf Land ..... Location.
The Texas Company's No. 6 State, Calcasieu Lake ..... Total depth 3,306 ft.; trying to straighten hole.

JENNINGS—ACADIA PARISH

Cline, Smith & Cline's No. 9 Conklin ..... Rigging up to pump.
The Texas Company's No. 5 Rayne heirs, King tract .... Drlg. 7,458 ft.
Yount Lee Oil Co.'s No. 8 Houssiere-Latrielle, Section 47-9s-2w ..... Drlg. 6,320 ft.
Yount Lee Oil Co.'s No. 6 Crowley ..... Drilled rock 4,698 ft.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 50 Star-Vincent ..... Rig.
Marrs McLean's No. 4 Gray (workover) ..... No report.
Vinton Petroleum Co.'s No. 5 Matilda Gray ..... Standing 3,250 ft.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 9 Bouillon fee ..... Drlg. hard sand and shale 3,493 ft.
The Texas Company's No. 2 St. Martin Land Co. ..... No report.

STAKES—CALCASIEU PARISH

J. O. Davis' No. 1 Industrial ..... Standing 2,775 ft.
Gulf Refining Co.'s No. 20 Lutcher-Moore ..... Cap rock 1,198 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 9 Yount Lee ..... Drlg. gumbo 4,357 ft.

ANSE LA BUTTE—ST. MARTIN PARISH

Yount Lee Oil Co.'s No. 1 Hebert ..... Drlg. 5,650 ft.

SORRENTO—ASCENSION PARISH

Gulf Refining Co.'s No. 17 United Land Co. ..... Abandoned 4,200 ft.
Gulf Refining Co.'s No. 18 United Land Co., cap rock area ..... Moving in.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Black Oil Co.'s No. 1 Lancashire, near Sealey ..... No report.
Empire Gas & Fuel Co.'s No. 1 Boyd, San Felipe ..... Drlg. 800 ft.
O'Hara et al's No. 1 Batla, near Raccoon City ..... No report; previous report drlg. shale 3,904 ft.
McInnery et al's No. 1 McDay, west of Kinney ..... Shut down 500 ft.

BRAZORIA COUNTY

The Texas Company's No. 1 Ewin, Harvey Little Sur. .... Drlg. sand, shale and boulders 2,046 ft.
Mills Bennett Production Co.'s No. 1 Random, Allen ..... Drlg. hard rock 1,309 ft.
Faust et al's No. 5 Faust ..... No report; previous report drlg. gumbo 3,905 ft.
Rucks & Patterson's No. 1 Hunter, southwest of Hoskins.. Shut down 1,185 ft.
Rycade Oil Corp.'s No. 1 Rapid City, Henry Austin Sur... Started drilling.
Shell Petroleum Corp.'s No. 1 Blakely-Winston, Danbury ..... Drlg. plug to test oil sand 4,820 ft.
Steel & Strickland's No. 1 Lockridge ..... Rig.

CHAMBERS COUNTY

Shell Petroleum Corp.'s No. 1 Herff, Moss Bluff ..... Drlg. shale 2,186 ft.
Pure Oil Co.'s No. 1 Kirby, Charles Tilton Survey ..... Location.

FORT BEND COUNTY

Gulf Production Co.'s No. 1 Brazos Valley, Clodine ..... Abandoned 5,700 ft.
Gulf Production Co.'s No. 2 Sugarland, Clodine ..... Location.
Pure Oil Co.'s No. 1 Jackson Brown, Barrett and Harris Sur. ..... Derrick.

GALVESTON COUNTY

Superior Oil Corp.'s No. 1 Jackson ..... Rig.

GRIMES COUNTY

Cranfill & Reynolds Oil Co.'s No. 1 Baylor, southeast Navasota ..... No report.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress ..... Shut down 4,247 ft.
Higgins Oil & Fuel Co.'s No. 1 Sladous, Mykawa ..... Drlg. shale 6,381 ft.
Humble Oil & Ref. Co.'s No. 7 Warren, Hockley ..... Drlg. sandy shale 4,873 ft.
Humble Oil & Ref. Co.'s No. 2 Minnetex ..... Repairing rig 1,177 ft.
Humble Oil & Ref. Co.'s No. 1 Sladous (workover) ..... Set 105 ft. 4,933 ft.; flowed 34 bbls. oil with 4,000,000 ft. gas on 5/16-in. choke in 12 hrs.; oil 39.2 gravity.
Rich et al's No. 1 Highlands ..... Derrick.
Sloan Prospecting Co.'s No. 1 Ulrich, Hannah Nash Sur. .. Drlg. gumbo 3,771 ft.
Martin, Drake & Jones' No. 1 Haney ..... Drlg. shale 3,695 ft.
Watts Brothers' No. 1 Hubert, Mykawa ..... Total depth 5,523 ft.; plugging back.

JEFFERSON COUNTY

Bayou Oil Co.'s No. 1 Hooks-Borduge ..... Drlg. shale 2,615 ft.
Gulf Production Co.'s No. 8 Bordages ..... Drlg. shale and lime 6,439 ft.
Gulf Production Co.'s No. 1-A Guy Junker, Fannett ..... Sidetracking 4,640 ft.
Gulf Production Co.'s No. 5 Burrell, Fannett ..... Drlg. gumbo and lime 3,500 ft.
The Texas Company's No. 1 Fitzhugh, Big Hill ..... Total depth 5,857 ft.; trying to go through heaving shale.
Westbury Oil Co.'s No. 1 West, Choate Sur. ..... Shut down 2,850 ft.

LIBERTY COUNTY

Gulf Production Co.'s No. 1 Weiser ..... Drlg. sticky shale 6,570 ft.
Gulf Production Co.'s No. 4 Boyt, Hankamer ..... Rig.
Gulf Production Co.'s No. 5 Boyt, Hankamer ..... Rig.
Gulf Production Co.'s No. 1 McFaddin, Moss Bluff ..... Derrick.
Humble Oil & Ref. Co.'s No. 1 Sabine Tram, Devers .... Rigging.
Cranfill & Reynolds Oil Co.'s No. 8 Esperson, Sheeks ..... Set 2 joints screen 3,293 ft.; comp. flowing 1,800 bbls. 22.8 gravity oil.
Cranfill & Reynolds Oil Co.'s No. 9 Esperson, Sheeks ..... Drlg. gumbo 1,000 ft.
Cranfill & Reynolds Oil Co.'s No. 2 Moores Bluff, Sheeks.. Sand and shale showing oil 2,292-2,315 ft.; cem. 6⅝-in. casing 2,-282 ft.
Yount Lee Oil Co.'s No. 2 Moores Bluff, Sheeks ..... To pump 3,347 ft.

MATAGORDA COUNTY

Cockburn et al's No. 1 Hawkins, Shepherds, Mott ..... No report.

MONTGOMERY COUNTY

Kelley-Kaker's No. 2 Guergus ..... Drlg. shale 1,915 ft.

ORANGE COUNTY

Gulf Production Co.'s No. 1 W. H. Starks, Port Neches ... Rig.
The Texas Company's No. 2 Kuhn, Port Neches ..... Rig.
The Texas Company's No. 2 Stark, Port Neches ..... Started drilling.

WALLER COUNTY

Kirby Petroleum Co.'s No. 2 Davis, San Felipe ..... Drlg. 1,000 ft.
W. P. Morris' No. 1 Chapman, Donoho Sur. ..... Shut down 2,080 ft.

SOUTH LOUISIANA
ACADIA PARISH

Calcasieu Oil Co.'s No. 1 Hays, Sec. 10-8s-1w ..... Drlg. 4,102 ft.

ASSUMPTION PARISH

Gulf Refining Co.'s No. 1 Armilise, Napoleonville ..... Abandoned 6,037 ft.

CALCASIEU PARISH

Wilfred Lahay's No. 2 James ..... Standing 3,775 ft.
Calcasieu Oil Co.'s No. 1 Moss, Sec. 8-10s-9w ..... Drlg. 3,451 ft.

CAMERON PARISH

Shell Petroleum Corp.'s No. 14 Watkins, Black Bayou ... Shut down in lime and calcite 1,971 ft.
Shell Petroleum Corp.'s No. 15 Watkins, Black Bayou ... Location.
The Texas Company's No. 5 Calcasieu Lake, Calcasieu Lake Dome ..... Drlg. sand and gravel 991 ft.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w ..... Sandy shale showing oil 2,932 ft.; drill stem stuck.

IBERIA PARISH

The Texas Company's No. 5 Vermillion Bay ..... Location.

IBERVILLE PARISH

Shell Petroleum Corp.'s No. 4 Wilbert, White Castle .... Drlg. water sand 4,026 ft.
Standard Oil Co.'s No. 4 Schwing, Bayou Blue ..... Drlg. 1,704 ft.
Standard Oil Co.'s No. 5 Schwing, Bayou Blue ..... Building derrick.
Standard Oil Co.'s No. 5 Wilbert, Bayou Blue ..... No report.
Standard Oil Co.'s No. 6 Wilbert, Bayou Blue ..... No report.
Standard Oil Co.'s No. 1 Case, Bayou Des Glaise ..... Drlg. 2,300 ft.
Standard Oil Co.'s No. 2 Case, Bayou Des Glaise ..... Location.

JEFFERSON DAVIS PARISH

Pure Oil Co.'s No. 1 May, Sec. 1-10s-5w ..... Total depth 3,976 ft.; set whipstock to sidetrack.
Shell Petroleum Corp.'s No. 1 Heyd, Iowa ..... Rigging up.
Yount Lee Oil Co.'s No. 1 Courtney, Welsh ..... Rig.

LA FOURCHE PARISH

Gulf Refining Co.'s No. 1 City of New Orleans, Bay Champagne ..... Drlg. 5,950 ft.
The Texas Company's No. 1 Leesville ..... Rig.

PLAQUEMINE PARISH

Humble Oil & Ref. Co.'s No. 1 Cockrell-Moran, Lake Grand Ecaille ..... Tested salt water 1,739 ft.; pulling screen.
Humble Oil & Ref. Co.'s No. 1 Lake Washington, Lake Grand Ecaille ..... Drlg. hard sand 4,396 ft.
The Texas Company's No. 4 State, Garden Island Bay ... Rig.

ST. LANDRY PARISH

Elbof Exploration Co.'s No. 1 Ledoux, Eunice ..... No report.
Herbert-Baker Oil Co.'s No. 1 Fisher, Sec. 10-3S-4e ..... No report.
Gulf Refining Co.'s No. 3 Gaudet, Port Barre ..... Drlg. 3,452 ft.
Gulf Refining Co.'s No. 2-A Hoskins, Port Barre ..... Drlg. 3,326 ft.
The Texas Company's No. 5 Botney Bay, Port Barre .... Drlg. 3,675 ft.
The Texas Company's No. 6 Botney Bay, Port Barre .... Drlg. plug to test 3,600 ft.

ST. MARTIN PARISH

The Texas Company's No. 1 fee, Hager Dome ..... Drill stem stuck 6,556 ft.
The Texas Company's No. 3 fee, Hager ....ation.
The Texas Company's No. 2 St. Martin .... Bayou Boutte
The Texas Company's No. 1 Iberville, Hager ..... Drill stem stuck 6,112 ft.

ST. MARY PARISH

Pure Oil Co.'s No. 2 Wax Lake, Sec. 12-17s-9e ..... Rigging.
Vacuum Oil Co.'s No. 1 Zenor, Patterson ..... Drlg. gumbo 5,418 ft.

TERREBONNE PARISH

Charles Paggi's No. 2 Evergreen, Sec. 145-15s-16e ..... No report.
The Texas Company's No. 4 State-Bay St. Elaine ..... Drlg. gumbo 2,797 ft.
The Texas Company's No. 1 La. L. & E. Co., Bay Junope.. Location.
The Texas Company's No. 2 State, Lake Pelto ..... Rig.
The Texas Company's No. 3 State, Lake Pelto ..... Drlg. cap rock 4,516 ft.
The Texas Company's No. 3 State, Caillou Island ..... Location.
The Texas Company's No. 4 State, Lake Barre ..... Location.
The Texas Company's No. 3 La. L. & E. Co., Four Isle ... Gumbo 1,268 ft.; set 12½-in. casing.

GULF COAST FIELDS

(Continued from Page 54)

eastward offset, No. 1 Lambert, to Union's No. 2, which makes that test the farthest east hole to be drilled at Refugio. Union Producing Co. is started up in No. 3 Lambert, as is T. P. Morgan in No. 1 St. Johns, the latter lying between the deep producer and the main field.

In the course of the week, six new wells were added at Refugio, all in the 3,700-foot horizon area. These included Fox & Heflin's No. 1 Fannie Heard, flowing 600 bbls., 3,700 feet; Houston Oil Co.'s No. 1 Dorsey, Block 78, Town Commons, flowing 450 bbls., 3,696 feet; Houston Oil Co.'s No. 1 Shelton, Block 100, Town Commons, 416 bbls., 3,682 feet; Independent Oil & Gas Co.'s No. 3 Claude Heard, Town Commons, 1,400 bbls., 3,696 feet, and Karona Oil Co., 700 bbls., 3,699 feet.

Barbers Hill

Three wells were brought in from the deep horizon play on the east side of Barbers Hill, including Humphreys Corp.'s No. 1 McLean, 1,200 bbls., 5,-325 feet; Gulf Production Co.'s No. 2-A Wilburn, 500 bbls., 15 per cent water, 5,245 feet; Sun Oil Co.'s No. 3 J. Wilburn, 200 bbls., 30 per cent water, 5,379 feet.

Other completions were The Texas Company's No. 16 Koehler, Humble, 900 bbls., 3,070 feet; Yount Lee Oil Co.'s No. 126 McFaddin, Spindletop, 1,260 bbls., 4,900 feet; Humble Oil & Refining Co.'s No. 9 Nelson, DeWalt, 450 bbls., 3,742 feet; two small wells at Raccoon Bend, one at Pierce Junction, one at old Hackberry, and one each at Saratoga, Sour Lake and Big Creek.

Daily Average Production

Daily average production of Coastal fields indicated a very substantial increase during the week making a total daily average for the week 189,982 bbls. in Southeast Texas, and 20,480 bbls. in South Louisiana, a total of 210,462 bbls. This is the largest average output for any week in the history of the Gulf Coast and was due to gains at Barbers Hill chiefly, along with other scattered increases. Figures by fields were:

PRODUCTION
SOUTH TEXAS

Allen	50
Barbers Hill	27,285
Batson	1,182
Big Creek	2,838
Blue Ridge	1,875
Brenham	120
Boling	1,193
Clay Creek	1,587
Damon Mound	638
DeWalt	10,146
Fannett	1,305
Goose Creek	5,000
Hankamer	...
High Island	1,204
Hull	9,106
Humble	20,677
Jasper County	25
Lost Lake	603
Markham	305
Nash	317
North Dayton	944
Orange	2,433
Orchard	2,118
Pierce Junction	11,062
Port Neches	2,182
Raccoon Bend	10,257
Refugio	46,946
Sheeks (Esperson)	2,941
Saratoga	1,061
Sour Lake	2,336
So. Liberty-So. Dayton	5,327
Spindletop	16,621
West Columbia	6,297
Total South Texas	189,982
Last week	185,909
Increase	4,073

SOUTH LOUISIANA

Anse La Butte	40
Bayou Blue	105
Bayou Bouillon	1,476
Black Bayou	60
Edgerly	556
Jennings	1,077
Hackberry	3,105
Lake Barre	813
Lake Pelto	212
Lockport	2,746
New Iberia	6
Port Barre	1,738
Sorrento	103
Starks	416
Sulphur	3,350
Sweet Lake	120
Vinton	3,995
Welsh	182
White Castle	380
Total South Louisiana	20,480
Last week	19,819
Increase	661
Total Gulf Coast	210,462
Last week	205,728
Increase	4,734

CALIFORNIA FIELDS

(Continued from Page 61)

the oil testing 30.9 degrees A.P.I. No. 3 Green, the Associated's other recompletion, made 570 bbls. daily on a compressor from 7,875 feet. The Bandini Petroleum, a subsidiary of the Wilshire, recompleted No. 13 Off doing 720 bbls. daily from the Clarke zone at 7,940 feet. The depleted condition of the Clarke and Hathaway zones, together with enforcement of the gas conservation law, has practically removed Santa Fe Springs as the dominating factor in State production. The gas law has already resulted in a substantial reduction in field production, and, while the daily output has already been reduced to 130,000 bbls. per day, this will be down still lower during the coming week. The gas law, while it will have a tendency to limit the production of crude oil, will not deter operators from engaging in additional deep zone exploration. Several holes are already headed down in search of a new zone and because of their importance they will be watched very closely during the next several weeks. No. 4-A Baker of the Wilshire Oil Co. has already reached a depth of 8,803 feet, and, while information is withheld as to the present formation, preparations are being made to set a string of pipe. This indicates the possibility that something of importance may have been discovered at this depth. Oscar Howard failed to develop commercial production in his No. 7 Hathaway sometime ago at 9,356 feet but this well was located rather unfavorably with respect to structure and does not necessarily preclude the development of commercial production near the apex. No. 113 Jalk of the General Petroleum was suspended a few months ago at 8,365 feet but this project is also located out on the flank of the structure. In addition to the Wilshire's No. 4-A Baker, operators are watching the outcome of other deep exploration in No. 3 Fulton of the Associated at 8,300 feet, No. 10-A Patterson of The Texas Company at 8,998 feet and one or two wells rotating ahead above the 8,100-foot level.

Elwood

The prolific Elwood Field of Santa Barbara County, the only field in the State which exceeded its rated potential on an actual six-day flow test during the latter part of February, yielded two more large wells during the past week. These new producers were Nos. 12 and 17 on the Bell Luton lease of the Barnsdall and Rio Grande, which concerns are jointly operating this property and several other tideland drilling permits. No. 12, which was bottomed at 3,437 feet, came in under a natural flow doing 2,150 bbls. daily, while No. 17, which was completed at 3,398 feet, registered an initial of 4,011 bbls. during the first 24 hours following completion. Both projects will be permitted to continue on production on a five-day flow test to establish their maximum potential production in conformity with the crude oil curtailment plan now in effect. The Barnsdall and Rio Grande have three other wells scheduled for early completion and this trio, consisting of Well No. 2 on Tideland drilling permit No. 88, Well No. 1 on Tideland drilling permit No. 95 and No. 6 Doty should result in substantial production upon completion. The Bankline Oil Co.'s Well No. 2 on Tideland drilling permit No. 89, which blew in as a gas well last week doing 7,000,000 feet of gas, was subsequently killed and the tubing lowered in an effort to stimulate the production of crude oil and reduce the output of natural gas. The initial production from 3,341 feet was all gas but upon recompletion this week the well is now doing about the same amount of natural gas and approximately 500 bbls. of oil. The oil production is increasing from day to day while the gas production is declining, thus indicating that eventually this project may result in a normal producer. This is the first well of this kind to be completed in the Elwood Field as heretofore all wells have shown a substantial production of crude oil with an unusually low gas oil ratio.

Rincon

For the second time in less than two months, No. 2 Ferguson of the General Petroleum, a tideland drilling project located out in the open ocean at the end of a 1,700-foot pier in the Rincon Field of Ventura County, has staged a premature flow. The first demonstration of this well occurred in the shallow zone, at which time it showed a potentiality of 500 bbls. daily. The well was subsequently killed, however, and drilling resumed only to have the performance repeated in the second horizon during the current week. This well, which is scheduled to be carried down for a test of the lower zones, came in a few days ago flowing 1,200 bbls. daily of 30.1 gravity oil and 500,000 feet of natural gas from 3,109 feet. This premature flow has been killed and drilling will be resumed again within the next few days.

The prolific production of the Elwood Field of Santa Barbara County and the results shown by No. 2 Ferguson of the General Petroleum at Rincon has focused the attention of operators on the possibility that additional fields may be developed along the sea coast between these two districts. One of the most promising tideland areas to be tested out during the next few months is located at Coal Oil Point, situated a few miles east of the Elwood Field. The importance which attaches to this area lies in the fact that a geological survey reveals the existence of a rather well-defined structure. The shore side of the structure at Coal Oil Point has led to the general assumption that this area is monoclinal and therefore of no consequence. This supposition is confirmed and supported by visible outcrops and dips. The late Irving B. Augur, who was president of the Bolsa Chica Oil Co. until his death recently, did not share this opinion. A complete survey was accordingly undertaken with the result that an anticline was found instead of a monocline. In

order to determine the existence of an anticline, the Bolsa Chica Oil Co.'s geological department was obliged to initiate subsurface geology. As a result of this survey, the Bolsa Chica recently completed validation work on two tideland drilling permits and is at the present time constructing an 800-foot pier on another in order to facilitate the drilling of a deep test. If the company's exploration work is successful the Bolsa Chica will control the entire structure.

Long Beach

Although daily production of the Long Beach Field has been relatively steady around 105,000 bbls. for the past several weeks, this figure may be increased in the near future unless crude oil curtailment is more successful. The possibility of larger production at Long Beach is due to the probable completion of a number of new wells which are scheduled to be finished in the deep zone soon. This possible increase may be prevented, however, as Judge Hazlett of the Superior Court is to begin hearing on the State's petition for a temporary restraining order on April 7. Unless something develops to jeopardize the status of the gas law in the meantime, it is quite likely that Judge Hazlett will grant a temporary restraining order at Long Beach based on the precedent established as a result of similar work at Santa Fe Springs.

There were several wells completed at Long Beach during the past week and a number of others scheduled to be given early tests. No. 7 Stakemiller of the Shell Oil Corp. was the best well finished during the past seven-day period as this project registered an initial daily production of 1,312 bbls. of clean 29.2 gravity oil from 5,567 feet. This new well, which was finished with 161 feet of perforated, has been subsequently pinched back to 625 bbls. daily. No. 7 Stakemiller of the Shell is located in the eastern end of the field in close proximity to the 10-acre Painted Hills lease acquired a few months ago by the Petroleum Securities and a short distance northwest of the Plymouth Oil Co.'s No. 9 Signal, which is still flowing 1,045 bbls. of unusually clean 30.5 gravity oil from 6,889 feet several weeks after completion.

The productivity of the eastern end of the Long Beach Field, as revealed by the completion of a number of large producers during the past several months, continues to attract the attention of operators interested in this area. The Rawco Oil Co., which has developed production from the deep zone discovered by the State Co. several months ago, recently leased 24 lots embracing approximately five acres and has completed tentative plans for immediate development. The Rawco's new property adjoins the Painted Hills 10-acre lease of the Petroleum Securities. In addition to No. 7 Stakemiller of the Shell, which was finished this week, the Hancock Oil Co. completed No. 26 Signal, a new well doing 294 bbls. per day from the shallow sand at 4,874 feet. Dabney & Johnston also increased their production this week by recompleting No. 40 pumping 132 bbls. daily from 6,028 feet, the hole having been plugged back from 6,085 feet. N. A. Macrate carried his No. 1 Buffam still deeper but only got 175 bbls. per day from 7,129 feet. The State Co., which has experienced considerable success in the eastern end of the field, redrilled and deepened No. 2 Midland to 6,439 feet, from which depth it was returned to production pumping 160 bbls. of 28.2 gravity oil daily.

Midway-Sunset

The Doyle Petroleum successfully completed two large flowing wells out in the Maricopa Flats section of the Midway-Sunset Field of Kern County during the past week and incidentally increased its daily production 3,420 bbls. The company started off the week by finishing No. 7 Son Crail flowing 1,770 bbls. per day from 3,530 feet and followed this up a short time later by bringing in No. 4 Weir flowing 1,650 bbls. initially from 3,600 feet. The oil from both of these wells, located in Section 8-11-23, is clean and tests 22.6 degrees A.P.I. The Doyle-Clune Oil Co., which has a 40-acre lease adjoining the Doyle Petroleum Co.'s holdings in Section 8-11-23, is making preparations to complete well No. 1 at 3,760 feet within the next few days.

The Standard Oil Co.'s No. 1 Mascot in the older section of the Midway-Sunset Field has succeeded in establishing its claim as the deepest drilling well in California at the present time. This project, which was originally spudded in in order to pick up the shallow Western Petroleum sand which the Union Oil Co. developed at Midway, was rotating ahead a few days ago at 9,435 feet, and while nothing of importance has been logged from the grass roots down, it is the present intention of the Standard to continue drilling as long as the outlook is favorable and mechanical conditions permit. The Shell gave up the attempt to develop production in No. 1 Perris at 8,195 feet and this well has been plugged back to 6,300 feet. The Chanslor-Canfield Midway Oil Co. successfully completed No. 32 Fee, a new well located out on the west front of the Kern River Field in Section 23-28-27 and this project is pumping 35 bbls. of 15.5 gravity oil daily from 2,084 feet. No. 33 on the same lease is being rigged up and this well, together with the Standard's No. 23 in Section 15-28-27, should be spudded in shortly. In the Round Mountain Field of Kern County the Shell completed No. 7 Freeman, a new well pumping 221 bbls. of clean 21.4 gravity oil daily from 1,640 feet, the hole having been finished with an 8⅝-inch oil string carrying 273 feet of 100-mesh screen. In addition to completing this new well, the Shell spudded in No. 11 Jewett and staked locations for No. 8 Freeman and No. 12 Jewett. In the Mount Poso Field of Kern County the General Petroleum completed No. 5 Glide, in Section 21-27-28, pumping 115 bbls. daily from 1,561 feet, the hole having been finished with an 8⅝-inch oil string including 148 feet of 80-mesh screen. The Union also completed a new well at Mount Poso when No. 8 S. & M. was put on the beam at 1,728 feet, from which depth it pumped 120 bbls. initially.

SOUTHWEST TEXAS

(Continued from Page 56)

north of southeast corner of tract in the J. C. Darst survey, location.

Magnolia Petroleum Co.'s No. 2 Richburg, 450 feet from west line, 150 feet from south line of 102-acre tract in the east corner of the J. R. Robinson Survey, location.

Lytton Springs Area—Caldwell County

Cranfill & Reynolds' No. 3 Strown, 150 feet east line, 150 feet south line of farm in the P. Martinez Survey, 4 miles west from Lytton Springs, location.

Agua Dulce Field—Nueces County

Houston Oil Co. of Texas' No. 1 M. E. Brooks, 150 feet from north and east lines of fractional Section 29, Benton Pasture Subdivision, in the Los Sauces grant, location.

Cole Pool—Duval County

Shaw and others' No. 1 S. Benavides, 1,950 feet west line, 180 feet north line, Survey 173, rigging up.

Wilkins Seacord's No. 1 S. Benavides, 660 fest northwest line, 150 feet northeast line, Block 8, Survey 174, derrick.

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 44 Kohler, 495 feet north line, 495 feet east line, Survey 424, location.

Carolina Texas Pool—Webb County

E. D. Claggett & Sam Evans' No. 1 Webster, 150 feet south line, 990 feet west line, Survey 684, location.

Charco Redondo—Zapata County

C. R. Moore & J. M. Moore's No. 1 Adela G. de Flores, 330 feet northwest line, 330 feet northeast line, E. M. Doty Oil & Gas Subdivision, Block 99, Charco Redondo grant, location.

Jennings Pool—Zapata County

O. W. Killam's No. 21 Cuellar, 450 feet northeast line, 4,586 feet northwest line, Cerrito Blanco grant, total depth 600 feet, drilling.

H. Muckleroy, Jr.'s No. 3 Trevino, 460 feet south line, 300 feet east line, Block 25, Survey 412, rigging up to drill deeper from 1,281 feet.

DRILLING ACTIVITY

Darst Creek—Guadalupe County

Humble Oil & Refining Co.'s No. 11-A Denman, 1,921 feet north of southeast corner, 150 feet north-south line of survey in the A. S. Emmett Survey, total depth 2,420 feet, drilling in lime.

Humble Oil & Refining Co.'s No. 12-A Denman, 150 feet south line, 300 feet west of No. 11-A in the A. S. Emmett Survey, total depth 1,600 feet drilling in shale.

Humble Oil & Refining Co.'s No. 1 Sally Wilson in the J. C. Darst Survey, 150 feet from north line, 183 feet from west line, location.

Humble Oil & Refining Co.'s No. 4 Sallie Wilson, 500 feet east of No. 2, 150 feet north line of tract in the Jacob Darst Survey, derrick.

Humble Oil & Refining Co.'s No. 1 Yates Wilson in the Jacob C. Darst Survey, 150 feet from north and west lines of tract, location.

Magnolia Petroleum Co.'s No. 1 L. V. Echols, 150 feet to northwest and southwest lines of farm, 3,650 feet to southwest, 3,220 feet to northwest of survey, total depth 2,715 feet, shut down, water.

Magnolia Petroleum Co.'s No. 2 L. V. Echols, 150 feet to southwest and southeast lines of lease, 300 feet southeast of No. 1 well, 164½-acre tract in the James Hodges Survey, total depth 2,845 feet, shut down, dry.

Magnolia Petroleum Co.'s No. 1 Roamel, 150 feet each way out of southeast corner of M. E. Roamel 50-acre center of J. R. Robinson Survey, total depth 2,220 feet, drilling in shale.

Magnolia Petroleum Co.'s No. 2 S. M. Roamel, 150 feet each way out from northeast corner of 40-acre tract in the James Hodges Survey, location.

Sun Oil Co.'s No. 6 Knoblock, 150 feet from north and east lines of 75-acre tract in the J. R. Robinson Survey, total depth 1,500 feet, drilling in shale.

The Texas Company's No. 3-A Knoblock, 626 feet northeast of No. 2-A, total depth 2,410 feet, drilling in lime.

The Texas Company's No. 4-A Knoblock, 300 feet northeast of No. 3-A, total depth 2,495 feet, drilling in lime.

The Texas Company's No. 3 Posey Baker, 1,510 feet from northwest line, 300 feet southwest line of tract, offset to Humble's No. 9-A Denman in the J. R. Robinson Survey, total depth 2,090 feet, drilling in Taylor.

The Texas Company's No. 5 Henry Willie, 150 feet from north and east lines of tract in the J. C. Darst Survey, total depth 2,510 feet, drilling in lime.

The Texas Company's No. 6 Dallas Wilson, 150 feet from south and west lines of tract in the J. C. Darst Survey, location.

E. L. Thomson's No. 1 Posey, 150 feet from northwest corner of Posey 71-acre tract in the J. R. Robinson Survey, derrick.

Dobrowolski—Bexar County

Penn-Tex Oil Co.'s No. 1 Dobrowolski, 150 feet from south line, 150 feet from east line of west 67 acres of Dobrowolski 147-acre tract in the M. Menchaca Survey, total depth 520 feet. Drilling in shale, gas and oil show.

Penn-Tex Oil Co.'s No. 2 Dobrowolski, 450 feet from south line, 150 feet from east line of west 67 acres of 147-acre tract in the M. Menchaca Survey, 5 miles southeast from San Antonio, total depth 460 feet, drilling.

Bruner Pool—Caldwell County

Humble Oil & Refining Co.'s No. 5 T. Briscoe, 1,150 feet from west line, 150 feet from north line of 56-acre tract in the J. Hinds Survey, location.

Humble Oil & Refining Co.'s No. B-4 J. R. Tiller, south central part of lease in the J. Hinds Survey, location.

Kohler Pool—Duval County

E. H. Buckner's No. 2 Peters, 1,980 feet south line, 660 feet west line, Survey 161, total depth 1,700 feet, drilling, set 6⅝-inch casing at 1,686 feet, sand 1,686-99 feet.

Simms Oil Co.'s No. 9 Dinn, 660 feet east line, 660 feet south line of northwest of southeast of Survey 143, rigging up.

Everett Suladie's No. 1 Peters, 165 feet south line, 230 feet west line, Survey 33, total depth 2,506 feet, sand 2,245-47 feet, dry, drilling.

Humble Oil & Refining Co.'s No. 41 Kohler, 2,970 feet south line, 330 feet east line, Survey 165, location.

Humble Oil & Refining Co.'s No. 43 Kohler, 825 feet north line, 165 feet west line, Survey 169, total depth 1,750 feet, set 6⅝-inch casing 1,744 feet, sand at 1,744-50 feet.

Lasater Pool—Brooks County

Houston Oil Co.'s No. 1 Holbein-Wormser in the Palo Blanco de Maguellas Survey, 330 feet north line, 6,540 feet east line, direct offset 660 feet south of No. 1 Lasater, total depth 5,161 feet, drilling in sandy shale and gumbo.

Agua Dulce Field—Nueces County

Agua Dulce Oil & Gas Co. and Southern Texas Production Co.'s No. 1 J. A. Daudermann, 640 feet south and north lines, 640 feet west and east lines of Block 14 or the southeast quarter of Section 32, Benton Pasture Subdivision, rigging up.

Nursery Pool—Victoria County

Humble Oil & Refining Co.'s No. A-3 Jay J. Welder, 1,634 feet southeast line, 736 feet southwest line in the D.L.&C. Survey, 1½ miles northeast from Nursery, total depth 6,139 feet, drilling in shale.

Cole Pool—Duval County

Cole Petroleum Co.'s No. 68 Rosa Benavides, 660 feet northeast line, 660 feet northwest line, Cole Subdivision, Mariano Arispe grant, Block 11, Survey 14, total depth 2,592 feet, sand 2,401-21 feet, gas and oil show, drilling.

Schoolfield-O'Byrne—Duval County

C. E. Long's No. 5-Hahl, 850 feet north line, 950 feet east line, Block 27, Survey 250, total depth 1,850 feet, drilling.

Roma Pool—Starr County

The Texas Company's No. 1 "B" V. C. de Guerra, 150 feet south line, 150 feet west line of north 1,173 acres, Share 92, Porcion 68 of Partition Porcion 67, 68, 69, 70, 71, 72, Jurisdiction of Mier, total depth 2,800 feet, drilling.

Albercas Pool—Webb County

O. W. Killam's No. 1 Bruni, 575 feet north line, 238 feet east line, Albercas grant, Block 33, total depth 2,539 feet, sand 2,532-39 feet, tested 16 trebles salt water, show oil and gas.

Carolina-Texas—Webb County

George S. Marshall's No. 2 Webster, 810 feet south line, 1,170 feet west line, Survey 684, total depth 2,430 feet, drilling.

W. R. Shankle's No. 2 Webster, Survey 684, 1,170 feet west line, 150 feet south line, rigging up.

Cole Pool—Webb County

South Texas Production Co.'s No. 1 Perez-Leal, 150 feet west line, 2,492 feet north line, Survey 667, spudded in.

O. W. Killam's No. 18 Bruni, total depth 2,802 feet, sand 2,600-48 feet, gas, drilling.

E. H. Buckner's No. "A"-1 Rosa Benavides, 660 feet northwest line, 660 feet northeast line, Cole Petroleum Co. Subdivision, Mariano Arispe grant, Block 5, Survey 14, total depth 1,613 feet, sand 1,609-13 feet, salt water, standing.

Magnolia Petroleum Co.'s No. 2 King-Harper, Block 2, Survey 323, 660 feet north and east lines, location.

Jennings Pool—Zapata County

Magnolia Petroleum Co.'s No. 3 Cuellar Survey 245, 150 feet to northeast and southeast line, total depth 1,400 feet. This well completed as a gas well February 14, 1927, at 1,341 feet. Resumed drilling March 14, 1930. Now drilling.

South Texas Production Co.'s No. 9 Measles and others, 3,830 feet southeast line, 660 feet northeast line, Cerrito Blanco grant, location.

W. R. Shankle's No. 1 E. Gutierrez, 150 feet northeast line, 3,014 feet northwest line, Share 4, Fansler Partition Comitas grant, spudded in.

F. M. Blair & F. M. Blair, Jr.'s No. 3 Trevino, 500 feet east line, 150 feet north line, Block 1, Survey 66, location.

G. F. Owen's No. 2 Montemayor, 820 feet east line, 150 feet north line, Block 7, Survey 64, total depth 500 feet, standing.

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One No. 32 Keystone Drilling Machine.
Complete with tools and boilers.
The LaDow Gas Co., Fredonia, Kansas.

FOR SALE—Rotary Drilling Outfits can be bought at a bargain. Tools that are now drilling and have just finished wells in Seminole Field. Write P. O. Box 1257, or phone 555, Wewoka, Oklahoma.

FOR SALE—EQUIPMENT

GASOLINE TRUCK train for sale. Powered by White model 59 truck, Fruehauf semi with 2,500 (3 comp.) gallon tank and Fruehauf four wheel with 2,000 (2 comp.) gallon tank. Air Brakes. 40x8 Pneumatic tires on all wheels Duals on all but front of truck. Equipment used two months. Will sell at great sacrifice. The Mead-White Motor Truck Co., Odessa, Texas.

FOR SALE OR TRADE
Reconditioned pipe, casing and Oil Field Supplies. Also Gasoline Plant Equipment. Lee Morrison Supply Co., Bartlesville, Okla. Branch yd. at Sand Springs, Okla.

READY FOR SHIPMENT
Three Miles 4" Std. Screw Pipe.
Five Miles 3" Std. Screw Pipe.
Four Miles 2" Std. Screw Pipe.
Priced To Sell.
The LaDow Gas Co., Fredonia, Kansas.

EQUIPMENT WANTED

WANTED: A large size motor driven spudder or drilling machine, or tractor. Must be comparatively new. Give full description, location, and cash price. M. W. Greeson, Prescott, Ark.

WANTED: FORT WORTH SPUDDER drilling rig, complete either with or without string of tools, capable going 2,200 feet, must be A-1 condition. Give details, price and terms first letter. Write Box E-149, The Oil and Gas Journal, Tulsa, Okla.

WANTED: Combination pumping power which will handle six or more shallow wells. Must be in first class condition and priced right. Patten Bros. preferred. Joel Bailey, 310 Mercantile Bank Bldg., Evansville, Indiana.

WANTED TO BUY: Used 5 3/16" 17-lb., 6⅝" 17-lb., 8¼" 24-lb., and 10" 32.75-lb. Oil Well casing. Write Box E-152, The Oil and Gas Journal, Tulsa, Okla.

BUSINESS OPPORTUNITIES

OIL LOCATED before drilling. Geophysical method. Toggodometer Instrument; take pay in oil. No oil, no pay, except traveling and testing expenses. 95 per cent accuracy. O. P. Coffin, Caddo, Tex.

A NEW CABLE-TOOL BIT, patent 1698873, designed for soft or sticky formations, to compete with a rotary in speed. I have been using one similar for four years on a small machine with wonderful success and now want it introduced. Other interests prohibit me giving this my personal attention, so would like to make a deal with some responsible party to handle patent on percentage, or would sell outright. Contractor, if you want to try me out, will send dope to any tool shop. Patent brokers save your stamps. R. Burke, 225 Oxford, Lindsay, Calif.

WE ARE BUILDING FOR THE FUTURE
Pool your royalties with a growing company and build with us. Let us know legal description and location of your royalties and we will make you a proposition.
CONTINENTAL ROYALTIES, INC.
Box 1585 Amarillo, Tex.

WANTED BROKERS to handle leases and royalties in 25 Texas Counties. General Investment Co., Box 774, San Angelo, Tex.

ATTENTION: MANUFACTURERS desiring representation in Mid-Continent Field. We cover the territory and have complete office and warehouse facilities. We can handle an additional line for production or refining trade that has merit. Our business is selling. Write Box E-127, The Oil and Gas Journal, Tulsa, Okla.

INQUIRIES WANTED
(By financially responsible operator)
From Business and Professional men who are interested in Oil-Gas and Sulphur Development, and who can make investment of not less than $500.00.
P. O. Box 1232, Houston, Texas.

BUSINESS OPPORTUNITIES

MINERAL RIGHTS FOR SALE
170,000 acres northern New Mexico. Some coal. Structure favorable for oil. K. A. Heron, Chama, N. Mex.

I HAVE PATENTS pending on a distillation unit of my own design. Desire correspondence preferably with small producers who desire to branch out into the refining business cheaply. Address P.O. Box 83, Compton, Calif.

YOU can make BIG money helping to develop the gold mining industry of Colombia, South America. For particulars address Davidson, 201 First National Bank, Denver, Colo.

OIL holds alluring possibilities but SAFEGUARD your future by an investment in World's Most Profitable Natural Industry—SHEEP. Own your own. We care for them without expense to you and guarantee thirty per cent annual returns on your money. 25c brings you full information.
Bow Island Sheep Co.,
303 Alberta Corner,
Calgary, Alta.

FOR SALE—Whitetail Oil Syndicate Units, at par $100.00, covering 47,000 acres, now drilling, N.E. Montana. Good geology. G. H. Lowe, Trustee, Neilsville, Wisconsin.

TO THE CONSERVATIVE INVESTOR: If you are looking for a good opportunity to make some real money then come to Arizona and look over the Gold Placer Field that is now being developed. For further information write Box 14, Kirkland, Arizona.

OPPORTUNITY OF A LIFE TIME. For $6,000 I will sell half interest in well and block of 2,500 acres. Magnetometer high. Excellent geology. No agents. Write Box E-151, The Oil and Gas Journal, Tulsa, Okla.

SACRIFICE SALE. By nonresident owner needing money, all or part of 320 acres at Albuquerque, New Mexico, ripe for subdivision into city lots (160 A. inside other 160 A. just outside city limits). Work already begun on ten million dollars Conservancy and irrigation system; several million in building and other improvements projected. Price $50 per acre cash or easy terms. Address M. Overman, 505 Drew Avenue, Houston, Texas.

WILDCATTERS ATTENTION: Offering the geology and acreage for completed well. Pinal Oil Company, 77 East Broadway, Tucson, Arizona.

ZAPATA COUNTY, TEXAS, 1,352 acres close to the National Oil Company's new gas well at $1.00 per acre. Also have other large and small blocks of leases close to drilling and producing wells in Zapata and Kendall County. R. O. Zielinski, 12836 Wood Street, Blue Island, Ill.

$5,000.00 TO INVEST
With Owner of shallow lease 500 to 800 ft. now producing. Must be in Mid-Continent field and all conditions A No. 1 for large production. Write Box E-153, The Oil and Gas Journal, Tulsa, Okla.

GEOPHYSICAL APPARATUS

FOR SALE—GEOPHYSICAL APPARATUS. High-class electric seismograph registering acceleration. In first-class condition and complete for field use. "Expensive imported outfit." Sickness of owner reason for selling. An opportunity for competent geologist to form lucrative geophysical prospecting company. Write Box E-139, The Oil and Gas Journal, Tulsa, Okla.

POSITIONS WANTED

DISTRICT GEOLOGIST in Seminole and Oklahoma City Fields desires new connection on salary or interest basis. Write Box 837, Shawnee, Okla.

DRAFTSMAN with 15 years experience in highway and railroad engineering and drafting, a little oil field drafting, desires position. Write Box E-142, The Oil and Gas Journal, Tulsa, Okla.

POSITIONS WANTED

MR. EXECUTIVE—Do you need an assistant or a field man with 12 years practical experience in rotary and cable tool drilling, production and transportation? Graduate Mining Engineer. Location immaterial. Interview if necessary, or references furnished. Write Box E-130, The Oil and Gas Journal, Tulsa, Okla.

DRILLING SUPERINTENDENT at present employed by prominent oil company of Mexico, wishes to secure position with independent concern starting work in Central or South America. Expiration of contract reason for seeking new position. Can speak Spanish fluently and have knowledge of laws and customs of the countries. Widely acquainted in most of the capitals of South American Republics. Extensive experience in both rotary and cable tools in many sections of America and foreign countries. Recognized as petroleum engineer. Physical condition splendid. Age 30, married. Write Box E-141, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

CHEMISTS WANTED
Large oil refinery, located near St. Louis, Missouri, requires the services of Chemists or Chemical Engineers for inspection, research and experimental work. To qualify, applicants must have at least a B. S. degree in chemistry or chemical engineering. Salary $150 to $180 per month, depending upon qualifications. In reply give full details of personal history, education and experience and send photograph. Write Box E-120, The Oil and Gas Journal, Tulsa, Okla.

WANTED—SALES ENGINEER WITH TECHNICAL BACKGROUND. Prominent steel and Plate Fabricating organization wants capable Sales Engineer with technical background. Preferably one whose training has been chemical and mechanical, and whose past experience has been in artificial gas work, oil refinery work, or with a chemical manufacturing organization. Should have experience in the design of processing and storage equipment for refineries, chemical plants and utilities. If interested furnish full particulars and address Box E-144, The Oil and Gas Journal, Tulsa, Okla.

IF YOU ARE SEEKING a connection and have experience in the oil business write in confidence for details of our aggressive, individualized, contact service. Business Service Co., 30 years in Chemical Building, St. Louis, Mo.

JENKINS CRACKING STILL OPERATORS—Experienced operators wanted for four to six months' work in Europe. Give experience and references in your reply. Write Box E-133, The Oil and Gas Journal, Tulsa, Okla.

OIL REFINERY Mech. Detailer, Designers, Chemists and Chemical Engineer Graduates. Calls daily. Write or wire, give age, exp. Interstate Co., Security Bldg., Denver, Colo., built through 26 years worldwide service. Largest in West.

REAL ESTATE

8,000 ACRES TIMBER LAND Issaquena County, Mississippi. Potential oil field. Sportsmen's paradise. Deer, bear, squirrel, coon, turkey, duck, trout. Three miles national highway 61. $7.50 acre. Barbour Realty, Vicksburg, Miss.

FOR SALE. 200 acres, Presque Isle County, Mich., Cheboygan District. Not far from Alpena, Boyne City and Charlevoix. Bargain. Need $500.00 cash; balance terms. Answer Box E-147, The Oil and Gas Journal, Tulsa, Okla.

240 ACRES, Crawford County, Mich., near Grayling. Will give bargain price if sold now. Write Box E-148, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—MAPS

OIL DEVELOPMENT maps, any county in Oklahoma and west Texas. 75c each. State, county and district maps showing oil development. Lindsay Map Co., Franklin Bldg., Oklahoma City, Okla.

ZINGERY OIL MAP CO.
Makers of famous Zingery abstract maps.
813 Throckmorton Ft. Worth, Texas.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

LEASES—PRODUCTION

FOR LEASE—25,000 acres Prospective Oil Land in Coahuila, Mexico. Rights confirmed to owner by Mexican Government. S. R. Gonzales, Naranjo 2, Altavista. Tampico, Mexico.

TEXAS ROYALTIES—$2 base and up. Leases 20 cents and up. Cheap lands $2.50 and up. Send for interesting bargain list. General Inv. Co., Box 774, San Antonio, Tex.

LEASES TEXAS ROYALTY
Attracitve blocks, wildcat and semi-wildcat, 500 to 14,000 acres, Southwest Texas, with and without drilling obligation. Full information to corporations or individuals of responsibility. Corporation business solicited and given careful and confidential handling.
J. S. JONES,
San Antonio, Tex. Luling, Tex.
410 Builders Exchange Petroleum Bldg.

FOR SALE—Lease on Red Coulee Structure, Northern Montana and Southern Alberta's new sensational Oil Field. Many new wells to be drilled immediately. Field now in production. Write us for information. Northern Investments, 303 Alberta Corner, Calgary, Alberta.

OLD MEXICO
Several large tracts prospective oil land, also mines, for lease and sale. Also west and southwest Texas leases and blocks. A & M Petroleum Co., Box 599, El Paso, Tex.

FOR SALE—25,000 acres, 10-year paid up leases. Uvalde, Edwards, Kinney, Bandera and Real Counties, Texas. No rentals. $1.35 per acre. L. W. Stieren, Alamo Bank Bldg., San Antonio, Tex.

CHEAP LEASES, royalties, and drilling blocks for sale in South Texas coast counties where big oil play has just started. Address Ross E. Fenton, care Nueces Hotel, Corpus Christi, Texas.

MICHIGAN OIL LEASE
We have a 3,500-acre block oil leases we consider one of the best prospects in Michigan for oil, and will sell 3,000 acres very reasonable to a party who will drill a well. Good looking structure and several oil seeps. J. A. Zahn, 521 Detroit Savings Bank Building, Detroit, Mich.

HAVE WELL LOCATED leases and drilling blocks from five hundred to six thousand acres in Van Zandt, Wood, Hopkins, Smith, Rains, Panola, Anderson and Hamilton Counties, Texas, ready for immediate delivery. Jack Younger, 4626 Ross Ave., Dallas, Texas.

LEASE FOR WELL—Located in NW of NW of Sec. 2, Twp. 11n, R. 3 West. Require deposit of $5,000 as guarantee. Full particulars to person who can qualify. Joe Milam, 206 Oil Exchange Bldg., Oklahoma City, Okla. Phone night 4-1742. Day 2-8094.

EITHER 6 or 16-acre lease 3½ miles northeast Van, Hamman well drilling one mile north, $100.00 per acre.
20-acre lease, Athens, Texas, adjoining Dilworth Hagar block, big companies, good geology, $40.00 per acre.
5-acre lease on the fault line, one mile of well drilling to Trinity sand near Ennis, Texas, $50.00 per acre.
80-acre lease northwest of Detroit, Texas, material on ground for well two miles north, $15.00 per acre.
1/32 of landowners royalty 4 miles northeast Van, C. S. Adkins 200 acres, $300.00 per acre basis.
1/64 of landowners royalty J. H. McKenzie 50 acres, 3 miles northeast Van, ½ mile northeast of Cranfill & Reynolds well drilling on Coker, $650.00 per acre basis.
1/32 of the landowners royalty, 40 acres Dean, one mile northwest Van, ¼ Mile production, $1,000.00 per acre basis.
All have a real chance for production. Subject to prior sale and change in situation.
John M. Haesly, 1729 Bennett Ave., Dallas, Texas. Phone 3-1017.

PROVEN and unproven lands, leases, and royalties in Reeves, Ward, Pecos, Winkler, Culberson, Loving, Presidio, Hudspeth, and Ector Counties. H. F. Anthony, Anthony Building, Pecos, Tex.

LEASES—PRODUCTION

60-ACRE LEASE, Van Structure, NE $7 per acre. ⅛ of landowner's royalty free. Tyler, 1130 Cedar Hill Ave., Dallas, Tex.

FOR SALE
8,000-acre lease in west part of Menard County, Tex. Also have drilling blocks, leases, and royalties in Menard, Concho, Tom Green, Edwards, Irion and other good Texas counties. H. B. Opp, Menard, Texas.

OIL LEASES—Royalties for sale in Van Zandt County, Van Pool. R. G. Hendley, Grand Saline, Tex.

OIL LEASES for sale on one of the largest structures in Southeast New Mexico. Henry E. Meyer, 410 Kings Court, San Antonio, Texas.

NEW MEXICO LEASES
Eighty acre leases Roosevelt County for $100.
Glenn Myers, San Angelo, Texas

FEE OWNER of entire N. half Contreras Survey, 680 acres, Harris County, 10 miles N. of Houston, at intersection of E. Montgomery and Aldine Roads, the reported center of Aldine salt dome, desires lease with oil company agreeing immediate drilling. Communicate immediately. No brokers. Robert McGillespie, 511 Fifth Ave., New York, N. Y.

ABOUT TO DRILL SUPERB LEASE in Shackelford, unquestionably best shallow oil county in Texas, 14 known producing sands 85 to 3,500 feet. Have complete equipment, want several $100 to $500 partners, unlimited possibilities, ground floor basis, not a promotion but legitimate development by geologist and experienced oil producer. Ask quickly for particulars. E. L. Stratton, Albany, Tex.

FOR SALE: Lease and Royalty on two sections in Pecos County, Texas. Also leases in other good counties. Chas. Wendlandt, Jr., Austin, Texas.

FOR SALE: 3,000 acres oil leases in New Mexico; terms. Also oil royalties, Oklahoma and Texas. C. E. Detter, 227 Franklin St., Buffalo, N. Y.

ROYALTIES—PRODUCTION

FOR SALE—ROYALTIES. Belcones Fault, L. W. Stieren, Alamo Bank Bldg., San Antonio, Tex.

STEVENS COUNTY and other Western Kansas Counties and Beaver County and other Western Oklahoma Counties royalties and leases.
Sain and Company, Liberal, Kans.

ROYALTY INTERESTS, Van Zandt, Smith, Wood, Henderson, Anderson and Ector Counties, Tex. Lists and maps. James R. Haynes, Grantville, Kan.

ROYALTY BARGAINS in Oklahoma, Lincoln and Pott Counties for sale. American Inv. Co., 201 Elks Bldg., Oklahoma City, Okla.

PERPETUAL ROYALTIES
On structure and in the major company blocks, in northwestern Oklahoma. Woods, Harper, Major, Woodward and Blaine Counties.
G. D. Mansur
416 Equity Bldg., Oklahoma City, Okla.
Phone 7-2666

BEDROCK ROYALTY PRICES ahead of drilling on major company blocks. $6 per square mile. Perpetual deeds and title warranty. Clearly stated and understandable interests. See maps and bulletins. R. R. Fisk, Box 1214-B, Wichita Falls, Texas.

FOR SALE—Perpetual deeded oil royalty under major oil company leases located in the active areas of Lea County, New Mexico. Also five-year State oil and gas leases, low rental, small investment, easy terms; oil development map free. Monarch Inv. Co., Roswell, N. M.

FOR LEASE
IN SEDGWICK COUNTY, KANSAS
S. E. ¼; Sec. 34; T. 25; R. 2 E. Lincoln Township. Northeast of Lygrisse and Greenwich Pools. Miss Fay Ball, Lacon, Illinois. Box 675.

ROYALTIES, LEASES and PRODUCTION in Oklahoma, Kansas, and Texas. L. J. Seay, Attorney, 319 Thompson Bldg., Tulsa, Okla.

ROYALTIES—PRODUCTION

We Handle Oil Leases and Royalties.
RATLIFF AND CO.
630-31 Security Bldg. 3-7881; L. D. 594
Oklahoma City, Okla.

WE WANT good oil and gas royalties. Send us full information with reports. U. S. Royalties Corporation, C. A. Johnson Bldg., Denver, Colo.

YATES POOL PRODUCING ROYALTY
One acre or more, section 10, block 194, Pecos County, Texas, for $300.
Glenn Myers, San Angelo, Texas

ATTRACTIVE SPREAD or group of 10,000 acres oil and gas leases in 21 Texas counties, at 50 cents. Also cheap royalties and fee lands. Brokers wanted. General Inv. Co., Box 774, San Antonio, Tex.

TEXAS ROYALTIES—$2 base and up. Leases 20 cents and up. Cheap lands $2.50 and up. Send for interesting bargain list. General Inv. Co., Box 774, San Antonio, Tex.

BUY ROYALTY under drilling wells. Get quick action. Have royalty in proven and semi-proven Van pool, also under wildcat wells in Van Zandt and other counties. Jack Younger, 4626 Ross Ave., Dallas, Texas.

DRILLING BLOCKS in Bell County, Texas, and adjoining counties. A. L. Monteith, Belton, Texas.

ROYALTY FOR SALE, ¼ royalty 5-acre tract six miles Van Zandt County. Joins Major Company lease. Perry Blackwell, Ben Wheeler, Texas.

FOR SALE: Producing and close in royalty in the Oklahoma City Field. Investments $500 to $50,000.00. Maps and data on request.
W. M. GALLAGHER
Hersk. Bldg., Oklahoma City, Okla.

HAVE BUYER for settled producing royalties in Oklahoma. R. J. Hill, Route 4, Tulsa, Okla.

ECTOR, ANDREWS, GAINES. Active area and wildcat royalty. C. H. C. Anderson, Linz Building, Dallas, Texas.

FOR SALE. Royalty in Oklahoma City Field. Box 653, Kansas City, Mo.

100 ROYALTY OFFERING in Van, Darst Creek and Ector fields. Ector Co. leases. Anderson, Linz Bldg., Dallas, Tex.

FOR SALE—Royalty interests in Van Zandt, Smith, Wood and Henderson Counties. Van Pool, latest and biggest pool. G. M. Alsup, Grand Saline, Tex.

GOOD ROYALTY PROPOSITION
We want Eastern representatives to handle good royalty proposition. Wood Petroleum and Royalty Corporation, 712 Herskowitz Building, Oklahoma City, Okla.

INTERESTED IN BUYING half interest or less royalties in Northwestern Oklahoma and pay cash quick if priced in line and not mortgaged too heavily. B. H. Rowlett & Co., Tecumseh, Okla.

WANTED: Dependable source for purchase of royalty interests Oklahoma fields. Must furnish satisfactory references. Address Box E-150, The Oil and Gas Journal, Tulsa, Okla.

VAN ZANDT COUNTY, TEXAS
Royalty and Leases.
CALDWELL & HOLLAND
Grand Saline, Texas.

JACK COUNTY ROYALTY
Also, in other North Texas Counties, beginning now, deep drilling campaign. One-half royalty on one hundred acres up to one thousand acres. James T. Cumley, Wichita Falls, Texas.

VAN ZANDT and Henderson royalty bought before boom, priced right. Small interests and up to ¼. See maps and data. R. R. Fisk, Box 1214-V, Wichita Falls, Texas.

MONEY RAISING

CAPITAL — An experienced, dependable broker will aid in financing propositions of merit. Amster Leonard, East Orange, N. J.

DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 2443 N. W. 12th, Oklahoma City.

FINANCE YOUR OWN project with shares bonded. Quickest, most satisfactory known method of raising capital. Information free. Bankers Interstate Security. Electric Bldg., Denver, Colo.

BULLETIN, containing information of priceless value to responsible parties seeking capital, yours upon request. Free analysis and advice cheerfully given. Moderate rates. Prompt. Service. Morris, Financing Specialist, 3608 Warren St., Philadelphia, Penna.

INQUIRIES SOLICITED FROM CORPORATION interested in raising capital through marketing of corporate securities.
THE BROOKWORTH CO., INC.,
110 East 42nd St., New York City.

CAPITAL!
We buy no stock, sell no stock; but worthy companies seeking capital through public financing will find most outstanding and dependable service procurable by submitting full facts to Robert S. Hansel, Inc., Dept. 402, Clarendon, Va.

WANTED

WANTED TO BUY, abandoned Oil Lease, Pipe and Casing. Will pay cash. Post Office Box 1777, Houston, Tex.

WANTED: Small producing royalty. One or two barrels daily. Give location, full detail and cash price. Address Box E-122, The Oil and Gas Journal, Tulsa, Okla.

WANTED—To hear from parties having shallow production for sale or leases defaulting by rental payment. Preferably Kentucky. State details, price and geology. P. O. Box 566, St. Petersburg, Fla.

WANTED: Company to drill 2,500-acre block around Louisiana Interior Salt Dome. Write J. O. & S. B. Evans, Saline, La.

WANTED: PARTNER to go in fifty-fifty on operations in Western Kentucky. Good opportunity to get in on ground floor without much capital. Wells are inexpensive to drill and produce from 10 to 150 barrels. There will be no profit in this venture except thru the sale of oil when discovered. I am an operator and producer in that field now. Write me at Suite 409, Guaranty Bank & Trust Bldg., Lexington, Ky.

WANTED: Blocks or close in acreage to drill. Box 489, Blackwell, Okla.

WANTED: Reliable oil driller to drill a well on my place. Will send full particulars to parties interested. Mrs. Isabella Taylor, 454 Commonwealth Ave., Erlanger, Ky.

RANCHES AND FARM LANDS

FOR SALE: Mountain Ranch, good hunting; also good fishing close by, good water, electric lights. For further information write to owner. Henry W. Schmidt, Kremmling, Colo.

FOR SALE: 4,000-acre dairy farm on Jackson, Mississippi, oil and gas anticline—worth money as dairy and truck farm and if oil and gas is found on it, you will be a rich man. W. T. Pitts, The Land Man, Indianola, Mississippi.

FOR SALE. Farm Bargain. On top of the Ozark Mountains. An estate of 490 acres, including two miles of White River. Highly improved; modern in every way; complete in every detail. Very productive. Two-thirds in cultivation. Ideal all-year-around home. Ten-room modern house with heat, lights, baths and running water. Cash or terms. Write owner, Charlie H. Clouston, Rogers, Arkansas.

TO CLOSE estate will sell 4 and 24 thousand acre ranches. Winter and summer range, running water, lots grass, fish and hunters paradise. Mountains of New Mexico. Quick action necessary. 305 Cavalier Apts., Kansas City, Mo.

(ADDITIONAL CLASSIFIED WANTS ON NEXT PAGE)

Hand to Mouth Buying in Chicago Area

Spot Demand for Gasoline Light and Contract Movement Just Fair. Kerosene Firm but Demand Limited. Fuel Uncertain

By J. B. Waldo

CHICAGO, Mar. 31.—The lack of new business which is always noticeable on the last day or two of any month was very evident in this market today. The spot demand for gasoline was light and the contract movement was just fair. Salesmen who were in for the week end stated that all of the larger distributors had fair to large stocks and the ones that were ordering were the small jobbers with limited storage. These are also holding down their purchases right now to their present requirements. One reason for this is the bad condition of country collections which are generally reported as very low.

Price changes were unimportant. Major sellers of gasoline were asking 6⅝ cents Group 3, while others were taking what business they could get at around 6½ to 6⅝ cents. Owing to export sales of the 64 gravity there was some tendency to hold prices for the 390 and 375 endpoint at a little higher figure but the actual demand was light.

Kerosene was firm with the movement limited. There was some demand for furnace oil but it was very uneven, only an occasional seller reporting a fair movement while most of the demand consisted of scattering cars. Prices were easy with 3 cents the ruling price for distillate and 2⅝ to 2¾ cents paid for zero gas oils.

Statements made by service buyers of heavy industrial fuel oils continued to show the same uncertainty as regards the immediate future of their business as has been the case for the past month or more. Most of the industrial oil buyers are ordering only in limited quantities for immediate use but many of them state they expect their needs will be greater in a short time but just when they will not state. Prices are fairly steady on the ordinary quantities but quotations made to the buyer for one of the large steel companies shows that quantity business can command lower prices than the present market. Refiners seem very reluctant to quote ahead on any products and at the same time many buyers are just as little ready to order more gasoline or other products than they can use in a brief period so that the buying is very largely of a hand-to-mouth order.

Blizzard Not Wholly to Blame

The blizzard which began last Tuesday morning and continued until the deepest snowfall in Chicago's history had been recorded, was largely a local affair, and hardly can be blamed for the quiet spot gasoline market which prevailed all of last week. The weather was bad over most of the territory, but many of the nearby cities like Rockford, had no snowfall and even in Milwaukee there was no such depth of snow as in Chicago. For say 100 miles around the city the traffic conditions were of the worst but beyond that distance the road conditions were not bad for the season and in the Northwest, the weather was bright and pleasant. So the lack of business in this market was due to some other factor than the freak blizzard.

For years gasoline stocks usually have increased up to the close of March and the annual reduction in the refinery stocks has begun with April. This year, the distribution was favored by good weather and increased materially over that of a year ago. Jobbers began to feel the need of larger stocks earlier than they usually do, and it is not unlikely that they began to buy earlier than they might have done if the weather had been as backward as it was last year. They also had many notices of probable advances in the gasoline market and there has been some buying for storage ever since the middle of February. The quantity of gasoline delivered on contracts has also been larger month by month. The result has been large refinery shipments.

Jobbers' Storage Well Filled

Such information as is most readily obtainable points to the fact that jobbers' storage is pretty well filled in this territory and that from now on the refinery deliveries will more nearly reflect the actual consumption in the various parts of this territory. Two of the largest independent distributors in this part of the country say they were filled to the brim and did not even have room to take in some late advantageous purchases. Their tanks at each of their numerous stations were filled and they did not expect to do any further buying until late in April and not then unles the consumption was better than they expected.

If these reports reflect a general condition in the jobbing trade, the movement of gasoline at least for the earlier part of April, may not be as large as some plan for. There is always a time in each season when the distributors having brought their stocks up to the volume required for the larger consumption ahead of them, must wait for the depletion of their storage before placing any liberal orders.

Although the demand in the open market was rather limited, and this to some extent on account of the local weather conditions, no weakness developed except a little local selling of the remainders of March purchases. The interruption caused by the storm hurt the owners of these stocks for they depended largely on nearby dealers to order the limited number of cars that remained unsold.

Refiners Had Faith in Future

The refiners manifested their faith in the future of the demand by holding for higher prices both for immediate and for deferred shipments. At the close of last week, there were some cars of U. S. Motor gasoline that could be purchased for immediate shipment as low as 6 cents, Group 3, but this was really distress material, having been bought for March delivery and at a price for the most part that permitted the gasoline to be sold at that price at some profit to the seller.

But for April movement the quotations were firm and decidedly higher. Many of the best known Oklahoma refiners were holding for 6⅝ cents for ten-day shipments, others at 6¾ to 6½ cents. Other sources were quoting at 6¼ cents and in some cases differential point refiners were basing their prices on quotations at the refinery which would figure out a lower price by a fraction of a cent than the parity of the Group 3 price.

In a general way, an adjustment is going on to higher prices and there are many who expect there soon will be a return to the scale of crude prices which prevailed before the recent cut started by the Humble Oil & Refining Co. The producers feel that they are entitled to this because of their continued efforts to restrict production within the limits of sane industrial management. If crude is advanced, the recent result has been an increase in the tank wagon scale in this territory. If the refiner is to participate in the increased returns, he must keep his prices in line with the increased cost of his material and the larger returns on the sale of his chief product to the consumer.

Price Range in Line With 1928

During April, 1929, the prevailing range of prices for U. S. Motor gasoline out of the Group was 7 to 7⅝ cents. In the same month of 1928 the range of quotations was 6½ to 6¾ cents, our markets today being more nearly in line with 1928 than with last year. This condition has been brought about so far as this territory is concerned by over-refining, not by overproduction of crude nor by the action of any number of price cutters.

One of the most welcome advices received in this market was the statement from the American Petroleum Institute, that for the first time in many months, gasoline stocks showed a decline. Perhaps the value of the statement was rather sentimental than because of any great change in conditions. So far as the details of the report show anything, they indicate that the stocks east of the Rocky Mountains are not excessive and that the real menace is in California.

Conditions in the extremely competitive territory to the east of this city, where the refineries of all the surrounding parts are seeking for trade from the limited number of buyers who are not confined to one source of supply, show little improvement. There is much consideration of what will be the result of the building of the gasoline pipe lines and there is some looking towards the future for the probable alignment.

Many Still Skeptical

Many yet assert that they will not be built and others that if built, they will not work as expected. But present conditions are unsatisfactory and some of the major refiners in this district to protect their outlets in such cities as Detroit for example, are finding it desirable at least, to guarantee prices over April that are far below the net price of the refineries in the Group although the price to the refinery at the differential point is well above the present Group 3 quotation. For example a price made of 7½ cents out of East Chicago for Detroit delivery would net the Group refiner less than 5½ cents. The growth of the refining industry of the Central States has been marked and they are today in position to dominate the market under ordinary conditions east of the Mississippi River.

The demand last week was so largely for the U. S. Motor grade and for the antiknock gasolines, that the higher gravities suffered, the sole exception being the 60-62 gravity. Refiners have marked up their quotations but as yet ample material has been available at former prices from others than the major refiners in Oklahoma or North Texas. The demand for the antiknock gasoline, particularly for Ethyl Gasoline, is so strong that it is sweeping a large percentage of the trade into the sale of this specialty. There is no doubt that the growing demand for Ethyl Gasoline and the various makes of antiknock gasoline, have cut into the sale of the higher gravities and to some extent into the quantity of U. S. Motor gasoline sold. This must be considered in estimating the demand for other gasoline than the antiknock.

Many Blending With Ethyl Gasoline

Nine out of ten of the leading refiners are now blending and pushing the sale of Ethyl Gasoline usually as a compound of their own high grade product with Ethyl. The demand for natural gasoline is showing some improvement as there is more blending of the Texas naphthas with natural gasoline to produce a motor fuel of less expense with considerable antiknock value.

Kerosene is unevenly divided as to demand. Some of the sellers report a good business while others state that there is little doing. The real consumption has not yet begun and some have filled their storage while others have delayed a little. The larger refiners are for the most part asking 4½ cents for the 41-43 gravity but there is a supply still available at 4¼ cents Group 3 basis, and some for immediate shipment or of not quite as high quality at 4⅛ cents. The demand should increase to some extent and somewhat higher prices are looked for. The incubator demand is helping the consumption in certain localities and some jobbers who cater to this demand are particular to buy a full 42-44 gravity product.

The mild weather has restricted the sale of furnace oils of all descriptions to minimium amounts. The larger distributors have all the oil that they expect to need and are buying little. Occasional cars of distillate, zero gas oil or domestic fuel oil make up the business doing.

Price Tone Easy

Prices are easy in tone but in the absence of demand are unchanged at the recent levels which are all much below the prices prevailing during the season of real activity. Refiners state that many of their contracts have been completed and that the situation has been improved as to surplus stocks which they say are in good shape or will be by the time the late demand has been satisfied. There will be at least a month under ordinary weather conditions, before the consumption will dwindle to an end. A good distillate is easily obtainable at 3 cents Group 3, and a good zero gas oil at 2¾ cents for the amber colored material. Straw gas oil, if wanted would cost a little more. For the 28-30 domestic fuel oil the price range is from 90 to 95 cents and occasional cars have been bought for less.

The situation in the heavy industrial fuel oils is rather mixed. There is some complaint regarding the difficulty of getting really desirable oil of the former standards. A large part of the offerings consists of residual oils from the cracking stills which by some refiners are blended with the lighter products such

(Continued on Page 128)

Classified Wants

(Continued from Preceding Page)

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PUBLICATIONS

I HAVE A FILE of The Oil and Gas Journal commencing with December 7, 1911. This is complete down to date. It is for sale at a very reasonable price. Communicate with W. H. Gray, P. O. Box 1858, Tulsa, Okla.

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Tank Car Prices Are Advanced in East

Leading Gasoline Marketers Quoting Higher Than Posted Figures for Refinery Shipment and General Increase Looked For

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Mar. 31.—Tank car gasoline prices have been advanced by a number of sellers locally, and in several instances prominent marketers are quoting higher than the posted price basis for refinery shipment. A general increase, taking in all of the principal refiners and marketers, is looked for.

Changes have been lacking in other branches of the refined products market during the week, but sentiment has shown further improvement, and there is a general feeling that the statistical position of the market has strengthened appreciably. The results of the one-seventh refinery curtailment program are making themselves apparent and with talk of a pending advance in posted prices for crude oil, eastern oil interests are showing more optimism than for sometime past.

Refiners in several sections of the country are already drawing against storage stocks of gasoline, it is pointed out, and it is but a matter of time before this situation will become more general in the East Coast area. This development, coming at the start of the season of heaviest consumption of motor fuel, is a most encouraging harbinger of better times for the oil industry, it is felt.

Taking the country as a whole, it is evident that a virtual balance has been struck between supply and demand, and with a continuance of the curtailment activities at refineries, together with the normal and seasonal growth in consumption, reduced holdings and probable higher prices are indicated. During 1929, there was an increase of 37 per cent in the spring and summer consumption of gasoline in the United States between March and "peak" consumption in August, with daily consumption in the latter month averaging 1,218,000 bbls. It is expected that the 1929 figures will be exceeded materially during the current year, although there is some question that the percentage increase will be as substantial as was the case during the spring and summer months last year.

Tank Car Gasoline

Further improvement developed in the refinery gasoline market this week, and it appears likely that the general market will go to high levels shortly. Shell Eastern Petroleum and Warner-Quinlan Co., both of which had been offering U. S. Motor in tank cars lots at 8 cents, refinery, a fortnight ago have not only come up to the posted schedule of 8½ cents per gallon but this week marked up their quotations to 8¾ cents, being followed in this action by Carson Petroleum. This brings the quotations of these sellers up to the level which Richfield of New York has been quoting right along, and a quarter-cent per gallon over the price posted by Standard Oil Co. of New Jersey and other leading sellers in the New York harbor area. Reports from New England and South Atlantic markets indicate that the refinery gasoline market is showing additional firmness at these points.

A general advance to 8¾ or 9 cents per gallon in the local tank car market appears a certainty for the near future, with principal sellers apparently waiting for Standard of New Jersey to take the initiative in the upswing. The success of the one-seventh refinery curtailment program has already produced definite results in many sections of the country, and refiners are looking for some depletion of holdings at East Coast refineries within the next several weeks. Notwithstanding the refinery curtailment, East Coast refiners during the week ended March 22, the latest period for which statistics are available at the time of writing, added 281,000 bbls. to their gasoline stocks, which totaled 9,266,000 bbls. as of March 22. California refiners had 16,622,000 bbls. of motor fuel on hand on February 22, this total being equivalent to more than one-third of the total refinery gasoline holdings for the entire United States. Inasmuch as the East Coast has been more or less a dumping ground for excess holdings of Pacific Coast motor fuel, the continued gain in California stocks is somewhat disquieting to the trade here.

Notwithstanding less favorable weather conditions during the week, there was a good demand reported for gasoline. Tank car movement was fairly brisk, with jobbers in the market for prompt shipment stocks and inquiring likewise for gasoline for shipment over the month of April.

Tank Wagon Gasoline

There have been no general revisions in tank wagon or service station gasoline prices in East Coast territory during the week. Business has been well maintained on both standard brands and on premium motor fuels as well.

In connection with the premium fuel market, it is reported that a leading refining and marketing company of national scope will place an Ethyl Gasoline on the market in the near future.

Although competition for gallonage continues keen in both the wholesale and retail markets, there is a firmer tendency in evidence. While price schedules are by no means stabilized and considerable irregularity is evident in competitive territories, the general level of prices is better maintained perhaps than has been the case at any time during the past six months, and further improvement is looked for as the refinery market continues to strengthen.

There is still a marked trend on the part of major marketing companies toward the acquisition of retail filling station chains and individual stations, with somewhat of a race for a number of the more desirable marketing properties operating in the East Coast zone. This is making a number of important changes in gallonage of individual companies, and forcing some integrated companies to purchase the properties of their retail customers in order to prevent a competitor taking the gallonage away.

Lub Oil

Cylinder stocks have failed to show any price movement this week, although demand has picked up slightly. Refiners' stocks are reported to be fairly large on a number of grades, and buyers are evidently determined to hold off until they can force the market to a lower level. Refiners, on the other hand, do not appear inclined to meet the low price views of some buyers, and the market is more or less a waiting affair.

Red and pale oils are unchanged in price, with routine movement reported. Tank car shipments to domestic consumers and blenders are moving satisfactorily, and export volume is also well maintained.

Kerosene

Cooler weather has stimulated the sale of kerosene this week and the tank car market has taken on more activity. Principal refiners are quoting water white at 7¾ cents per gallon, tank car lots, at refineries, although other sellers are booking at 7½ cents, and some kerosene can be had at 7¼ cents per gallon, refinery. Competition of Pennsylvania kerosene is still providing an unsettling factor in some sections of the territory, with refiners being compelled to shade prices slightly to meet this competition in some sales.

Continuance of the curtailment program at refineries is expected to strengthen the position of kerosene through a lowering of stocks. Refiners who were bearish on this oil a fortnight ago are now showing considerable optimism over the outlook, and it is believed that the current basis can be maintained for sometime to come.

Export buying of kerosene has been rather sluggish during recent weeks, and refiners believe that foreign demand is about due for improvement. Any appreciable increase in export sales, it is believed, would be reflected by an appreciable firming-up in the market position in East Coast territory.

Tank Wagon Kerosene

With the East Coast area catching the tail end of the blizzard which swept the middle western states during the week, consumption of kerosene picked up appreciably. Tank wagon deliveries were much heavier than was the case during the previous week, and some sellers reported that their volume for the closing week in March was the heaviest of the month.

Quotations on tank wagon deliveries remain unchanged throughout the territory, the slight shading which developed in refinery markets not carrying through to the retail end.

Independent distributors were back in the market for kerosene in substantial quantities, with further replacement buying looked for during the coming week.

Gas Oil

Volume has shown some improvement during the past week, and the market tone is slightly firmer. The posted price remains at 5¼ cents per gallon, bulk, at refineries, although the bulk of the business is still going through at 5 cents. There is a little 28 plus gas oil still to be had at 4¾ cents, but the quantity available at this low figure is by no means as large as was the case a fortnight ago, curtailment of output having strengthened market sentiment considerably.

East Coast refiners are reported to be cutting into their storage stocks of gas oil to meet current deliveries on contract and this trend is expected to continue as long as the one-seventh plan is in effect at the refineries.

Furnace Oil

A sudden cold snap during the past week brought out considerable buying of furnace oil, and the market has taken a new lease on life. Jobbers who had withdrawn from the market, believing that their storage holdings were sufficient to carry them through the remainder of the season, have come back for tank car shipments in a large way, with considerable rush shipment business reaching refiners.

Retail demand for furnace oil has also picked up this week, with domestic grades moving out in large volume. This additional buying has brought about marked improvement in market sentiment, and has resulted in the clearing of low-priced stocks from the local market. No changes in retail prices are reported.

Paraffin Wax

Conditions remain unchanged in this division of the refined products market. While prices are unchanged, the undertone is still soft, and some shading is being done.

Domestic consuming manufacturers have not yet come into the market in a large way, and export operators are also inclined to limit their operations to hand-to-mouth buying until convinced that prices have hit bottom. Refiners are endeavoring to stabilize the market, but are having a difficult time of it in the face of the heavy stocks on hand at refineries.

Bunker Oil

Sentiment in the market has improved materially with the curtailment of refinery runs, and a steady to strong undertone is reported. Refiners are holding the market at $1.05 per barrel, in bulk, f.o.b. East Coast refinery terminals, with a good movement reported. Contract withdrawals are well maintained and a good volume of spot inquiry is also noted. Domestic demand is holding up fairly well.

Imports of fuel oil are still fairly heavy, but with curtailment of production at East Coast refineries, it is probable that a balance between supply and demand will be reached and that refiners may be able to draw against reserve stocks to take care of current demand later on in the season. Reduction of fuel oil inventories, it is felt, will be one of the most important results of the one-seventh curtailment plan, with the market benefits to be derived from this development second only to the strengthening of the statistical position of the motor fuel market.

There is no likelihood of any immediate price advance in bunker oil in the East, leading interests believe, although a continuance of production on the present basis should make for material betterment in the price situation later on in the year.

Diesel Oil

Marine consumption of Diesel oil continues the feature of the market. Sales are showing satisfactory increases over 1929 totals, and refiners expect that 1930 volume will establish a new high record. Sentiment in the market has shown material improvement during the month just ending. Production has been curtailed, and with receipts of California Diesel oil having shown no great gains, the statistical position of the market is much stronger.

While Diesel oil prices did not decline as sharply as bunker "C" during the price break of a few years ago, quotations for Diesel yielded somewhat, and refiners are now speculating on the possibility of a recovery in Diesel oil prices before the close of the year. No immediate price mark-up on this oil is looked for, according to reports from principal refining interests in this area.

Consumption of Diesel oil for airplane motors is still believed some years away, insofar as commercial volume is concerned, notwithstanding recent favorable tests of an aviation Diesel engine by a leading automotive manufacturer.

Export Markets

Continued quiet is reported in the Gulf export market during the week, no cargo fixtures being reported. While there has been some talk of a pending advance in posted prices for export gasoline and kerosene, nothing definite has developed in that direction as yet.

No additional California gasoline export sales have been reported, but the Pacific Coast motor fuel is reported offering at low prices for shipment to the Atlantic Seaboard. According to one unconfirmed report, several cargoes of U. S. Motor are available for early shipment from California at 7 cents per gallon, laid down at New York.

Fuel oil has strengthened at the Gulf, the cargo market being quoted firm at 72 cents, with little offering.

No movement is reported in Vene-

zuelan or Panuco crude in the open market.

Petroleum Exports

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Mar. 22	Mar. 15	Mar. 8
Gasoline	470,000	325,000	255,000
Naphtha	787,000	710,000	....
Kerosene	78,000	125,000	12,000
Fuel oil	13,000	....	6,000
Lubricating oil	2,485,000	2,790,000	960,000
Petroleum, refined	690,000	1,920,000	1,590,000
	Pounds		
Petrolatum	15,000	....	54,000
Paraffin wax	1,590,000	730,000	2,068,000
Refined	25,000	12,000	180,000
Scale	395,000	630,000	241,000
Lubricating grease	2,291,000	1,598,000	1,340,000

Demand for refined products for export has continued rather spotty in eastern markets this week, with the exception of gasoline. Export buyers have booked cased gasoline and naphtha in fair volume for later delivery, anticipating an early increase in quotations. This activity has extended in a limited way to cased kerosene as well. Lub oils, however, continue to move irregularly on cylinder stocks, with shipments of red and pale oils making up the bulk of the movement. Some low-priced paraffin wax has been cleared off the market for shipment abroad during the past fortnight.

Imports

Imports of crude and refined petroleum as the principal United States ports for the week ended March 22 totaled 1,236,000 bbls., a daily average of 176,571 bbls., compared with 2,064,000 bbls., or 294,857 bbls. per day, in the previous week, and a daily average of 257,893 bbls. for the four weeks ended March 22. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	115,000
New York	722,000
Philadelphia	95,000
Others	249,000
Total	1,181,000
Daily average	168,714
At Gulf Coast ports—	
New Orleans and Baton Rouge	15,000
Tampa	40,000
Total	55,000
Daily average	7,857
At all United States ports—	
Total	1,236,000
Daily average	176,571
Daily average four weeks	258,893

Distribution of total imports is as follows:

Crude	694,000
Gasoline	32,000
Fuel oil	510,000

California Oil Receipts

Receipts of California crude and refined petroleum at Gulf and Atlantic Coast ports for the week ended March 22 totaled 511,000 bbls., a daily average of 73,000 bbls., compared with 565,000 bbls., a daily average of 80,714 bbls. for the previous week and a daily average of 56,179 bbls. for the four weeks ended March 22. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	15,000
New York	356,000
Philadelphia	66,000
Others	74,000
Total	511,000
Daily average	73,000
At Gulf Coast ports—	
All ports	None
At Atlantic and Gulf Coast ports—	
Total	511,000
Daily average	73,000
Daily average four weeks	56,179

Distribution of total California oil receipts is as follows:

Gasoline	360,000
Gas oil	62,000
Fuel oil	74,000
Kerosene distillate	15,000

Shipments of refined products from California for the East Coast during the week (with identity of company owning tanker where such owner is an oil company) were as follows:

To New York—84,600 bbls. of Diesel oil on the Empire Arrow (Standard Transportation Co.-S.O.N.Y.); 140,000 bbls. of gasoline on the Tamiahua (Richfield); 45,800 bbls. of gasoline on the Pueblo, and 11,000 bbls. of gasoline on the Empire Arrow (Standard Transportation Co.-S.O.N.Y.).

HAND TO MOUTH BUYING IN THE CHICAGO AREA

(Continued from Page 126)

as a distillate to give the lighter gravities required by the domestic oil burner. This plan is hardly practical for large volumes.

Preheating System Suggested

When asked what the consumer of large quantities of fuel oil in industrial plants would have to do if they expected to continue to use oil for burning under their boilers, one of the largest dealers stated that they had best do what some of his big accounts were doing and that was put in some form of preheating system so that they could use the heavy gravity oils.

Some will remember the wail that arose when Smackover crude was introduced as a fuel oil. Many burners of fuel oil refused to touch it. Eventually they were induced to try it and they got to like it and another wail arose when the Smackover crude was no longer to be had in quantities. This dealer predicted that the same thing would happen as regards the heavier gravities of residual oils. Others do not wholly agree with this dealer but believe that there will always be sufficient oil for the needs of the industrial users of the kind that he can use with his ordinary equipment. That there has been a great change in the sources of supply is admitted. The tendency is to run to heavier and heavier gravities. The average recovery from crude, in gasoline, in 1929 was 44 per cent. The recovery of gasoline from crude in January of this year was a little more than 45 per cent.

May Reach 55 Per Cent

If this rate of increase of recovery is maintained, the amount of gasoline from crude by the end of the year would be 55 per cent or more and the average for the year at least 50 per cent. One-half of the recovered products from every barrel of crude run will be gasoline. Out of the other half of the barrel will come all of the other products from naphthas down to coke and some of these are important. There can be fuel oil enough run for any purpose but the price will have to be one that will pay better than to run the crude to gasoline. In other words if the gasoline recovery is reduced to permit of more fuel oil being run, then the fuel oil will have to make good the loss in income due to its manufacture. It will be no longer a waste product but a regular product and cost the user accordingly as compared with the price which will be asked for the residual oils from the cracking stills.

There is at the present time a lot of this heavy residual oil seeking a market or waiting for the weather when it can be moved in ordinary cars. There are many large concerns which use the oil now and others will equip themselves to use it so that the demand for the grades of fuel oil above say, 14 gravity will be better supplied. There are some contracts for the very heavy gravities now in force which figure less than 40 cents a barrel Group 3.

Users Well Satisfied

These users are well satisfied and when the quantity used is large it pays them to prepare to handle it. But there are the many smaller buyers of fuel oil who could never use a gravity as heavy as 12 degrees or less. Some of the dealers thought they had found such an oil in Refugio crude but that crude proved too valuable for such uses and the sellers are looking for some substitute.

The price situation is rather easy in tone. One refiner has come on the market with a 16-20 zero fuel oil with less than one-half of one per cent sulphur for which the price asked is 65 cents, Group 3 basis. One of the large local plants has sold some of its 18-22 zero fuel oil at the same price and this seems to be the bottom right now for a good 16-20 or 18-22 fuel oil. Some West Texas material is available to consumers at 62½ cents and there are oils that can be sold at 60 cents judging by the prices quoted on some of the recent bids. There has been a more active spot demand due in part, to the expiration of some of the larger contracts. Pending their renewal, these buyers are placing orders in the spot market for their present needs. The industrial situation is gradually improving and some seem to believe that the year will parallel in its business activities, not 1929 bu the preceding 12 months of 1928.

Little Change in Lubricating Oils

There has been little change in lubricating oils. The tendency is towards firmness in the refinery stocks and in the compounded oils. The motor oil demand has been quiet during the week. Industrial lubs are in fair demand in a general way. Specialties are more active in some lines.

There have been some local adjustments of tank wagon and station prices but no general change in this territory. The outlook is that present general prices will prevail unless there is an important change such as the restoring of the crude price in the Mid-Continent Field or the stabilizing of the refinery market at a price materially higher than the present rates out of the Group. The past week was the first for some time when the actual consumption showed a decided setback due to the bad weather.

The number of autos registered for their annual licenses, is ahead of last year but it is not believed that the increase is so much in the number of added cars as that the fine weather induced the car owners to take out their licenses more promptly than they would have done with ordinary weather. The question of quantity discounts is being still threshed out and at the present time different scales are in force by the different major companies. For the high bracket of 100,000 gallons during any one month, the maximum discount is 5 cents in Chicago and 4½ cents outside of Chicago. Some of the companies jump from 6,000 to 100,000 gallons per month while others have brackets at 50,000 and 75,000 gallons. It is probable that there will be an adjustment of the quantity discount allowance soon and the major companies will have parallel scales.

KANSAS FIELDS

(Continued from Page 52)

location for No. 97 Koogler, NW cor. SE, Section 20-26-5. Aladdin Petroleum Co.'s No. 2 Basinger, SW cor. NW SE, Section 24-27-3, is drilling at 1,000 feet. Empire Oil & Refining Co.'s No. 19 Houston, NW cor. NE SW, Section 19-26-5, has been completed for 30 bbls. in sand 2,614-72 feet. No. 95 Koogler, NW cor. SW NW, Section 20-26-5, made 75 bbls. in sand 2,549-2,610 feet. Empire Oil & Refining Co.'s No. 13 Cranston, NE cor. SE, Section 22-27-5, made 100 bbls. in sand 2,750-73 feet.

Chautauqua County

Craft and others' No. 1 Anderson, NW cor. SE, Section 16-35-11, has been abandoned at 1,012 feet.

Coffey County

Ritchie and others staked location for No. 1 Assenmacher, C SE, Section 36-22-13. Ritchie & Moore's No. 2 Tebbins, NE cor. NW NW, Section 18-23-15, is drilling at 850 feet. Shaffer & Howell's No. 1 Levering, SW cor., Section 7-23-15, is dry and abandoned at 1,650 feet.

Cowley County

Blankinship Petroleum Co. has the rig up for No. 2 Sloan, SW cor. NW NW, Section 28-30-3. Crow and others made location for No. 1 Stafford, CSL N half N half NE, Section 17-32-5.

Elk County

Flemming and others made location for No. 1 Morgan, SE cor., Section 8-29-9. No. 1 Shroder, NW cor., Section 16-29-9, has been completed for 100 bbls. in sand 2,658-59 feet.

Greenwood County

Derby Oil Co. and others made location for No. 1 Sheets, SW cor. NE NE, Section 23-22-11. Simmons & Rhodes' No. 5 Luthi, NE cor. SE SW, Section 29-22-13, is a location. Faulkner and others made location for No. 1 Schmintz, NW cor. SW SW, Section 30-24-13. Gore & Phillips' No. 2 Blanck, NW cor. SW SE, Section 29-22-13, is making 30 bbls. from sand 1,688-1,714 feet. Empire Oil & Refining Co.'s No. 6 Edwards "B," NE cor. SE SE, Section 21-23-11, has been completed for 135 bbls. in sand 1,918-44 feet. Simmons & Rhodes' No. 3 Patterson, NW cor. SW SW, Section 22-23-11, made 532 bbls. from sand 1,931-91 feet. Empire Oil & Refining Co.'s No. 3 Patterson "C," NE cor. SW SE, Section 36-23-11, made 600 bbls. in sand 1,740-1,817 feet. Marshall and others' No. 9 Bonnett, SW cor. SE SW NW, Section 13-24-12, made a 25-bbl. well in sand 1,712-30 feet. No. 10 Bonnett, CWL SW NW, Section 13-24-12, has been completed for 120 bbls. in sand 1,718-39 feet. Lassen and others' No. 7 Wilkinson, SE cor. NE SW, Section 6-25-9, made 175 bbls. in sand 2,195-2,215 feet. Mid-Kansas Oil & Gas Co.'s No. 1 Adams, NE cor. SW, Section 15-27-13, is dry and abandoned at 1,483 feet.

Lyon County

Sheedy and others' No. 6 Hughes, SE cor. SW SW NE, Section 19-21-10, is a rig.

Marion County

Phillips Petroleum Co.'s No. 1 Rumold, SE cor. NE NW, Section 10-17-4, is dry and abandoned at 3,155 feet.

McPherson County

Shell Petroleum Corp.'s No. 1 Johnson, SE cor. NW SE, Section 36-19-2w, is riging up. The Texas Company made location for No. 2 Munn, SE cor. NW NE, Section 12-20-2w. Shell Petroleum Corp. staked location for No. 3 Koehn, NW cor. NE NE, Section 16-21-3w. Shell Petroleum Corp.'s No. 1 Koehn, SE cor. SW SW, Section 36-19-2w, has been completed for 335 bbls. in sand 2,970-72 feet. No. 4 Ritz, SE cor. SW SW, Section 1-20-2w, Ritz Pool, is dry and abandoned at 3,015 feet. McCulloch Oil Co.'s No. 1 Cornelson, SW cor., Section 7-21-4w, has been abandoned at 4,025 feet. Indian Teritory Illuminating Oil Co.'s No. 1 Voshell, NE cor. NW, Section 9-21-3w, made 833 bbls. in sand 3,381-82 feet. Sinclair Oil & Gas Co.'s No. 4 Voshell, NW cor., Section 10-21-3w, made 825 bbls. in sand 3,438-47 feet.

Rice County

Independent Oil & Gas Co. and Hershey made location for No. 1 Tomlinson, NE cor. SW NW, Section 32-18-8w. Vickers Petroleum Corp.'s No. 1 Binger, NW cor. SE, Section 21-20-10w, was completed for 1,700 bbls. in sand 3,319-23½ feet.

Sedgwick County

G. L. Ramsey's No. 3 Mason, Lot 1, Block 7, Greenwich Townsite, Section 15-26-2, is preparing to deepen from 2,930 feet. Shell Petroleum Corp. is preparing to deepen No. 1 Southwestern, NW cor. SW SE SW, Section 2-27-1w. Shell Petroleum Corp.'s No. 1 Lygrisse "D," SE cor. NW, Section 15-26-2, made a 300-bbl. well in the top Viola lime at 3,188 feet.

Sumner County

Lario and others' No. 12 Wenrich, SW cor. NE NW, Section 23-32-2, is spudding. Derby Oil Co.'s No. 1 Norrish, NW cor., Section 35-34-2, has been plugged back from 3,547 feet to 2,783 feet and is making 8,250,000 feet of gas.

WIRT FRANKLIN CALLS NEW MEETING ON TARIFF

ARDMORE, Okla., Mar. 29.—Further steps in the campaign for an oil tariff will be planned at a meeting at Fort Worth, Tex., April 18 and 19, called by Wirt Franklin, president of the Independent Petroleum Association of America.

Both meetings will be held at the Texas Hotel with the organization officials convening at 10 a. m., Friday, April 18, and the general meeting at the same hour on Saturday.

Natural Gasoline Manufacture

Several New Plants To Operate Soon In Mid-Continent Area

Although the expansion in natural gasoline plant construction is not as active as it was during the boom period of Seminole development of 1929 and 1928, there are a number of new plants now under construction in the Mid-Continent Field.

The most active field is the Oklahoma City area. The Indian Territory Illuminating Oil Co., the largest crude oil producer and natural gasoline manufacturer in the field has two plants under construction in addition to the three plants in operation. The Cromwell and Wirt Franklin companies are interested in the two plants under construction. One plant on the Farley tract in Section 19-11-2 will have a capacity of 25,000 gallons daily. The other located in Trosper Park of Section 12-11-3 has a capacity of 30,000 gallons daily. The three plants now being operated by the Indian Territory company have a daily capacity of 30,000 gallons each.

In Section 30-11-2 of the Oklahoma City Field the Amerada Petroleum Corp. is building an absorption unit which will have a capacity of 8,000 gallons daily. The corporation is considering an additional expansion in its natural gasoline facilities in that field.

The Wirt Franklin Petroleum Corp. has completed its plant in Section 12-11-3 of the Oklahoma City Field. The maximum production of this plant has not been determined. It was built to handle 40,000,000 feet of gas daily. In the NW SW, Section 32-11-2, the Phillips Petroleum Co. is rapidly completing its first plant in the Oklahoma City Field. The plant will have an initial capacity of 40,000 gallons daily. It is understood that the company expects to build additional plant capacity in the field.

Due to the curtailed operations of the field, the actual production of most of the plants is much less than the indicated capacity. When the wells on a particular lease are shut in, some of the plants find it necessary to discontinue production entirely. Others operate at part capacity over a greater part of the time. This condition will not be improved materially until the proration program is ended.

Gray County

In Section 30, Block B2, H.&G.N.R.R. Survey, of Gray County, Texas Panhandle, the Magnolia Petroleum Co. is completing the construction of a plant recently taken over from the White Eagle Oil & Refining Co. When the White Eagle company was acquired by the Standard of New York, the Magnolia Petroleum Co. took over all of its Texas operations. The gasoline plant has a capacity of 10,000 gallons daily.

The F. C. Henderson Corp. of Tulsa has a building program under way which will give the corporation a 14,000-gallon plant in Survey 82, Block 46, Y.&T.C. RR. Survey, of Hutchinson County, Texas. The plant adjoins the townsite of Sanford.

In the Greater Seminole area of Oklahoma, the Empire Oil & Refining Co. is building a 14,000-gallon plant in the Konawa Pool. This plant is located in Section 9-6-6. It will be completed this month.

SHUT DOWN PLANT

The Signal Hill Gasoline Co. of Los Angeles has temporarily shut down its plant in Blocks F and G of the Signal Hill Field. The plant has a daily capacity of 15,000 gallons daily.

Construction and Operation

CONTRACTING FOR CASINGHEAD GAS*

It is quite obvious that the construction of a natural gasoline plant is predicated upon the acquisition by the company of a substantial volume of casinghead gas. The superintendent, or the contract man where such a man is in the organization, will be advised to "feel out" the oil producers in interest as to their own intention to build a plant. If the management is advised that an entrance into the field can be made, it gives consideration to the project on the basis of a tentative estimate submitted by the gasoline department. Where a geological department is on the staff, it is called for an opinion as to the possibilities of the field, if the extant wells are few in number. Of course, if the field has already witnessed considerable development the situation can be adjudged with reasonable accuracy on the basis of what is above the ground.

When producers are first approached they are not told that the company is going to build a plant. The promise to build is made contingent upon obtaining a certain amount of acreage or gas production, unless, of course, the company itself has gas of its own to justify a plant. It may be that the decision of the first producer approached to sell his gas will make a decision for the company to build the plant.

Natural gasoline production, like oil production, has been increased beyond the point of consumption. The price has accordingly been reduced so that during a good part of the last two or three years it has been below the cost of production. In purchasing gas, therefore, the company should well consider the economics involved in the case. It should not try to build new plants out of vanity or out of pride to get "big production." It should not force itself into a new field regardless of cost.

There are certain amenities to be observed by one manufacturer toward another. If a producer has a large proportion of the acreage in a field, or if one gasoline manufacturer is fortunate enough to obtain a preponderance of the gas and acreage in a field in which it does not appear that two or more plants could be supported after flush production is gone, another manufacturer should not encroach upon the first one. If the field is extended, of course it is in anyone's province to enter into competition for the gas.

Ever so many situations that might have been profitable for one plant have been made uneconomic for two or more. Obviously, competition makes for a higher gas cost. This would not be objectionable if it were not ruinous. It is the unwritten code of ethics with the manufacturer to pay a given known schedule for gas in a field that justifies a number of plants, whether or not competition is at hand. The gasoline manufacturer is not inclined to "sharp" practices. But when competition comes into a small situation and one company hopes to squeeze the other out, it becomes a matter of "life and death" to bid, one against the other. The reduced production of each plant, if both companies remain to build a plant, naturally increases both the fixed charges and the operating costs. There is a duplication of lines, loading racks, camps, auxiliary power, some machinery, loading lines, operating crew, and superintendence.

In order to avoid this sort of thing, it is up to the contract man to develop for

(Continued on Page 143)

*Sixth of a series of articles explaining the inner workings of a natural gasoline organization. The series was prepared by an operator actively engaged in all phases of construction and operation.

Who's Who
IN NATURAL GASOLINE MANUFACTURE

PURE OIL CO.

The Pure Oil Co. with headquarters in the Pure Oil Building at Chicago is one of the few companies which operates natural gasoline plants in both Eastern and Mid-Continent fields.

The company's operations in the eastern fields date back several years ago when the company was known as the Ohio Cities Gas Co. Natural gasoline at that time was not a desirable product and output was considered more or less as a necessary by-product evil of the crude oil and gas production operations.

Later the company operating under its present name expanded its operations to the Mid-Continent Field and natural gasoline plants have been built from time to time in several fields as a necessary adjunct of its crude oil production activities. At present the company is operating 15 plants with a total output of approximately 75,000 gallons daily. Two of these plants are located in West Virginia, three in Ohio and the remainder in Oklahoma.

The operation of the plants is carried on under the immediate direction of two division offices. R. H. Carr, Chicago, is manager of all plants. W. L. McCarty is in charge of the Oklahoma plants with headquarters at Drumright, Okla. G. W. Hoffman of Dawes, Kanawha County, West Virginia, is in charge of the West Virginia district.

The Pure company operates several refineries and they furnish the outlet for the bulk of the natural gasoline output. Two of these refineries are located in Oklahoma, one each in West Virginia, Ohio, Texas and Pennsylvania. The sales are in charge of the Chicago headquarters and the division ofices.

Following is a list of the company's plants and their approximate daily capacity based on present operations:

Plant location—	Daily cap. gallons
WEST VIRGINIA	
W. C. Co. tract, Kanawha Co.	15,000
Kile farm, Tyler Co.	150
OHIO	
Carson Heirs farm, Washington Co.	200
Ramsey farm, Washington Co.	100
Eckart farm, Washington Co.	50
OKLAHOMA	
Section 32-18n-7e, Creek Co.	5,000
Section 32-19n-7e, Creek Co.	4,000
Section 11-4s-3w, Carter Co.	1,500
Section 1-22n-8e, Osage Co.	*2,000
Section 5-15n-8e, Creek Co.	3,000
Section 26-9n-6e, Seminole Co.	20,000
Section 14-8n-6e, Seminole Co.	12,000
Section 11-7-6, Seminole Co.	3,200
Section 23-7-6, Seminole Co.	8,000
Total	75,200

*Owns half interest, operated by Sinclair Oil & Gas Co.

ANNOUNCE PROGRAM FOR BRECKENRIDGE MEETING

Seven papers of special interest to operators of natural gasoline plants will be presented at the Annual Plant Operators' Meeting of the Natural Gasoline Association of America to be held at Breckenridge, Tex., April 22. The meeting will be held in the City Hall auditorium. While the meeting is held primarily for the plant operators in the North Central Texas area, manufacturers generally are invited to attend.

Dr. E. R. Lederer, vice president of the Texas Pacific Coal & Oil Co. and president of the association will preside at the meetings. Opportunity for questions and discussions will be given after each paper is presented.

Following is the program for the meeting:

10:00 a.m.

"Boiler Operation and Maintenance," L. D. Scarborough, Boiler Inspection & Insurance Co., Dallas, Tex.

"Meters and Operation," D. A. Sillers, Lone Star Gas Co., Dallas, Tex.

"Safety Talk," H. N. Blakeslee, National Safety Council, Chicago, Ill.; and Don J. Wallace, director safety section, Mid-Continent Oil & Gas Association, Tulsa, Okla.

"Care and Operation of Gasoline Plant Machinery," D. B. Hiatt, Texas Pacific Coal & Oil Co., Thurber, Tex.

Luncheon

2:00 p.m.

"Regulators and Controlling Devices," E. H. Triphaus, Taylor Instrument Co., Dallas, Tex.

"Loading and Handling of Finished Gasoline," Otto Peters, Brooks-Hanlon Gasoline Co., Breckenridge, Tex.

"General Maintenance of Field Gathering Lines and Drips," Phillips Petroleum Co.

Open discussion.

SUMMARIZE STATISTICAL SITUATION JANUARY 31

January production of natural gasoline showed a relatively small increase over January last year. The increase east of California was only 1.9 per cent and 29.2 per cent in California with an average increase for the entire country of 10.7 per cent.

In contrast to the usual situation natural gasoline stocks at the end of January were 17.3 per cent less than on the same date last year. The January demand was 14.3 per cent more than in January, 1929.

NATURAL GASOLINE DATA

	Prod'tion east of California (bbls.)	Prod'tion California (bbls.)	Prod'tion United States (bbls.)
Jan., 1926	1,933,000	691,000	2,524,000
Jan., 1927	2,186,000	959,000	3,145,000
Jan., 1928	2,405,000	1,009,000	3,414,000
Jan., 1929	2,698,000	1,286,000	3,984,000
Jan., 1930	2,748,000	1,662,000	4,410,000

Percentage Increase Over January of Preceding Year

	%	%	%
Jan., 1927	19.3	38.8	24.6
Jan., 1928	10.0	5.2	8.6
Jan., 1929	12.2	27.5	16.7
Jan., 1930	1.9	29.2	10.7

	Stocks at plants close of month	Indicated total demand
Jan., 1926	405,000	2,483,000
Jan., 1927	560,000	3,041,000
Jan., 1928	740,000	3,407,000
Jan., 1929	740,000	3,850,000
Jan., 1930	612,000	4,402,000

Percentage Increase Over January of Preceding Year

	%	%
Jan., 1927	38.3	22.5
Jan., 1928	32.1	12.0
Jan., 1929	(*)	13.0
Jan., 1930	†17.3	14.3

*No change. †Decrease.

Brief Items for Petroleum Refiners

Sales of Premium Gasoline and Oil Show Largest Gain

The increasing demand for premium gasolines and motor oils which has been outstanding in all sections of the country is reflected in the annual report of the Standard Oil Co. of Ohio released last week, covering 1929 operations of the company.

The sales of Sohio Ethyl Gasoline increased 200 per cent over 1928, according to the report. The sales of this product, which were largely confined to the State of Ohio, have shown a steady increase so that in December, 1929, the sales constituted 57 per cent of the total tank wagon and service station sales of gasoline. The sales of Red Crown gasoline, which is the company's ordinary grade of gasoline, increased 17 per cent in 1929 over 1928.

The company's sales of motor oils increased 31 per cent in 1929. The company sells the Standard brand of Polarine and in May of last year introduced a new branded product known as New Sohio motor oil. Sales of motor oils increased rapidly with the introduction of this grade and at the close of the year premium sales represented almost 50 per cent of total sales.

Economies in Sales

In his annual report, W. T. Holliday, president of the company, discussed several other developments in refining and marketing which are of general interest to those branches of the industry. He said in part:

"It was stated in the annual report for 1928 that the company's freight and transportation cost per gallon had been reduced in the last half of that year by about one-half cent per gallon and that further freight savings could be hoped for in 1929 when the new refinery at Latonia, located within the switching limits of Cincinnati, had been completed. That refinery started operations in June, 1929. Also during the year 1929 the company extended considerably the trucking of gasoline from refineries in substitution for rail haul. In addition to this, freight hauls were reduced by the trading of gasoline on a specification basis with other refining companies. As a result of these various economies the freight and transportation cost per gallon was reduced in

(Continued on Page 141)

BUILDS CHICAGO BULK PLANT

CHICAGO, Mar. 29.—The Spartan Petroleum Co. of this city is building a bulk storage plant with capacity for 200,000 gallons gasoline at 4500 West Roosevelt Road. The Spartan Petroleum Co. is now operating 25 service stations in Chicago and its immediate suburbs. It specializes in Transcontinental Oil Co. products. William Jervis for many years with The Texas Company and later in charge of sales and transportation matters for the Marland Refining Co., is the president of the Spartan Petroleum Co.

LOUISIANA BUYS STATIONS

SHREVEPORT, La., Mar. 31.—Through the purchase of two bulk plants and a number of controlled service stations operated by the Ouachita Valley Oil Co., Louisiana Oil Refining Corp. has increased its Arkansas marketing facilities to 140 controlled stations and 48 bulk plants in Arkansas. The additions, located in Mount Ida, Glenwood, Amity, Oden and Norman, in Pike and Montgomery Counties, were bought for approximately $50,000, and have a gallonage running around 40,000 per month.

CHANGE NAME OF SHAFFER COMPANIES TO DEEP ROCK

Effective April 1 the name of Shaffer Oil & Refining Co. was changed to Deep Rock Oil Corp. The corporation will continue as a unit of the Standard Gas & Electric Co. system. The new name incorporates the trade name "Deep Rock" by which the company's products are known.

Subsidiaries of Shaffer Oil & Refining Co., which include the Home Oil Co. (operating in Minnesota, North Dakota and South Dakota), the High Test Oil Corp. in Oklahoma and Arkansas, and the Deep Rock Oil Co. of Wisconsin and Michigan have been operated under their individual names as marketing and distributing units of the Shaffer company. However, effective with the change in name of Shaffer Oil & Refining Co., the corporate status and names of these companies also will be changed in as much as they are a part of the Deep Rock Oil Corp. Approval of the change in name was made at a meeting of stockholders of Shaffer Oil & Refining Co., March 20, at which meeting all directors of the company were reelected. John L. Gray is vice president and general manager of the company.

APPOINT COCHREN MANAGER

CHICAGO, Mar. 29.—The appointment of F. L. Cochren as assistant general manager in charge of sales of the newly created Rocky Mountain division of the Standard Oil Co. of Indiana was announced today from the headquarters in this city. Headquarters of the new division will be at Denver. The appointment is effective from April 1.

Mr. Cochren has been at Denver for several years managing the sales for the Midwest Refining Co., which are now under the new arrangement to be handled by the Standard Oil Co. of Indiana. Under the control of Mr. Cochren there will be three sales divisions managed as follows: Colorado by H. B. Carpenter at Denver; Wyoming managed by G. H. Goohs, Cheyenne, and Montana by C. H. Dines and B. H. Sinclair with headquarters at Billings.

TO IMPROVE CRYSTAL PLANT

The refinery of the Crystal Oil Refining Corp. at Shreveport, La., will be shut down about April 1, preparatory to a general improvement program at the plant. Engineers recently completed a survey of the refinery's needs for a general improvement program and it is expected that this work will get under way in the near future.

According to an announcement by J. H. Riedeman, general manager of the corporation, provision has been made to take care of its customers while the plant is shut down.

JOINS SLACK COMPANY

W. C. McCallion, who has been in charge of tank car sales for the H. F. Wilcox Oil & Gas Co. resigned effective April 1 to join the Slack Petroleum Co., marketing concern with headquarters in Tulsa. Roy B. Maines who has been in charge of traffic for the Wilcox company will succeed Mr. McCallion.

SINCLAIR BUYS STATIONS

NEW YORK, Mar. 28.—Sinclair Refining Co. has purchased the Fay C. Adams Oil Co., Inc., operating a chain of retail filling stations in central and western New York State, with headquarters at Auburn.

The reported consideration was $200,000.

COMMITTEE STARTS WORK ON NEW SPECIFICATIONS

Committee D-2 on Petroleum Products and Lubricants, of the American Society for Testing Materials, has appointed three technical committees to take up work on specifications. The committee held its annual meeting last week in Detroit.

H. L. Horning, Waukesha Motor Co., Waukesha, Wis., is chairman of the new Technical Committee A on Gasoline. C. B. Veal, Society of Automotive Engineers, New York, is vice chairman, and T. G. Delbridge, the Atlantic Refining Co., Philadelphia, Pa., is secretary. The committee has appointed subcommittees on various topics, including gum formation, corrosion and vapor locking.

Technical Committee B on Motor Oils has elected H. C. Mougey, General Motors Corp., Detroit, as chairman. J. G. Detwiler, The Texas Company, New York, is secretary. Subcommittees will consider viscosity, pour point, service changes, carbon formation and oil consumption.

Technical Committee C on Fuel Oils, including Diesel Fuels, will function as a sectional committee under the procedure of the American Standards Association. The chairman is Lee Schneitter, Electric Bond & Share Co., New York, and A. E. Flowers, the DeLaval Separator Co., Poughkeepsie, N. Y., is secretary. Two main subcommittees have been appointed. Commander C. C. Ross, United States Navy, Washington, is chairman and H. F. Tapp, American Oil Burner Association, New York, secretary of the Subcommittee on Domestic and Industrial Fuel Oils. L. H. Morrison, of Power, N. Y., is chairman and W. H. Butler, Standard Oil Co. of New Jersey, New York, is secretary of the Subcommittee on Diesel Fuels.

The committee has agreed to recommend to the society for adoption as a tentative standard the Reid method for the determination of the vapor pressure of natural gasoline and a new method of test for the dilution of crankcase oil. The Reid method also has been adopted by the Interstate Commerce Commission as the official method to be used in determining the classification of gasolines for purposes of transportation.

ENLARGE WHITE STAR PLANT

The White Star Refining Co. is enlarging the cracking capacity of its refinery located at Trenton (near Detroit), Mich. The refinery completed last summer has a crude oil capacity of 6,000 bbls. daily and has been operating two Dubbs cracking units since last summer.

A third Dubbs unit is being installed. Another reaction chamber is being added to each of the existing units in order that either flashing or running to coke can be carried on. Arthur G. McKee & Co. is in charge of the construction work.

TANKER SHIPMENTS ON LAKES

CHICAGO, Mar. 29.—Although the Straits of Mackinaw are not yet open to navigation the tankers are already moving on the lakes. The Standard Oil Co. of Indiana is shipping by tankers from Muskegon Field to the refinery at Whiting. It is probable that before the end of 1930 the other three major refineries in the Calumet region, the Shell Petroleum Corp., the Empire Oil & Refining Co., and the Sinclair Refining Co. refineries will all be moving a considerable portion of their products by tankers to lake ports where they have storage. The Empire Oil & Refining Co. at East Chicago has let the contract for a 600-foot loading dock which it plans to have ready for use by May 1.

THE TEXAS COMPANY TO MARKET ETHYL GASOLINE

CHICAGO, Apr. 1—The Texas Company will offer Ethyl Gasoline through its stations and dealer accounts before the end of the month according to reports in local trade circles. Local officials and salesmen have made the announcement for this territory and it is understood that the product will be sold throughout the entire United States.

The announcement is considered highly significant. The Texas Company is the largest national distributor of petroleum products in the United States, having a distribution which covers every state and the District of Columbia. The company in recent years has never sold a premium grade of gasoline. It is understood that the decision to sell the Ethyl Gasoline followed an investigation covering marketing conditions in all parts of the country.

It is also stated locally that The Texas Company will shortly announce a new brand of lubricating oils. No announcement has been made regarding the prices to be charged for the new grades.

PROVIDES FOR TERMINAL

HOUSTON, Tex., Mar. 31.—Humphreys Corp. of Houston has purchased a tract with a 1,000-foot frontage on the ship channel east of Houston and has applied for a permit to construct a $300,000 wharf and oil terminal. The permit, however, is good for three years and, according to the Hmmphreys Corp., no definite plans for building the terminal have been made, the purchase of the tract being a protection in the event the company should be forced at some time to provide a new outlet for its growing production at Barbers Hill.

The Humphreys tract is situated just south of the Gulf Refining Co.'s tank farm and terminal at Lynchburg on the channel and is approximately 14 miles from Barbers Hill, from where a pipe line would have to be laid. Humphreys Corp. is one of the chief operators and producers at Barbers Hill.

TO DISCUSS PLANT SHUTDOWN

SHREVEPORT, La., Mar. 31.—The first annual meeting of the Louisiana-Arkansas Refiners Association will be held in Shreveport April 8, detailed plans and program for the meeting to be given later. It is probable that the six-day week will be a principal topic for discussion. The Shreveport-El Dorado Pipe Line Co. has already adopted the idea but instead of reducing runs to the equivalent of a six-day week will shut down for five days this week, utilizing the time for minor repairs.

BEACON CHANGES NAME

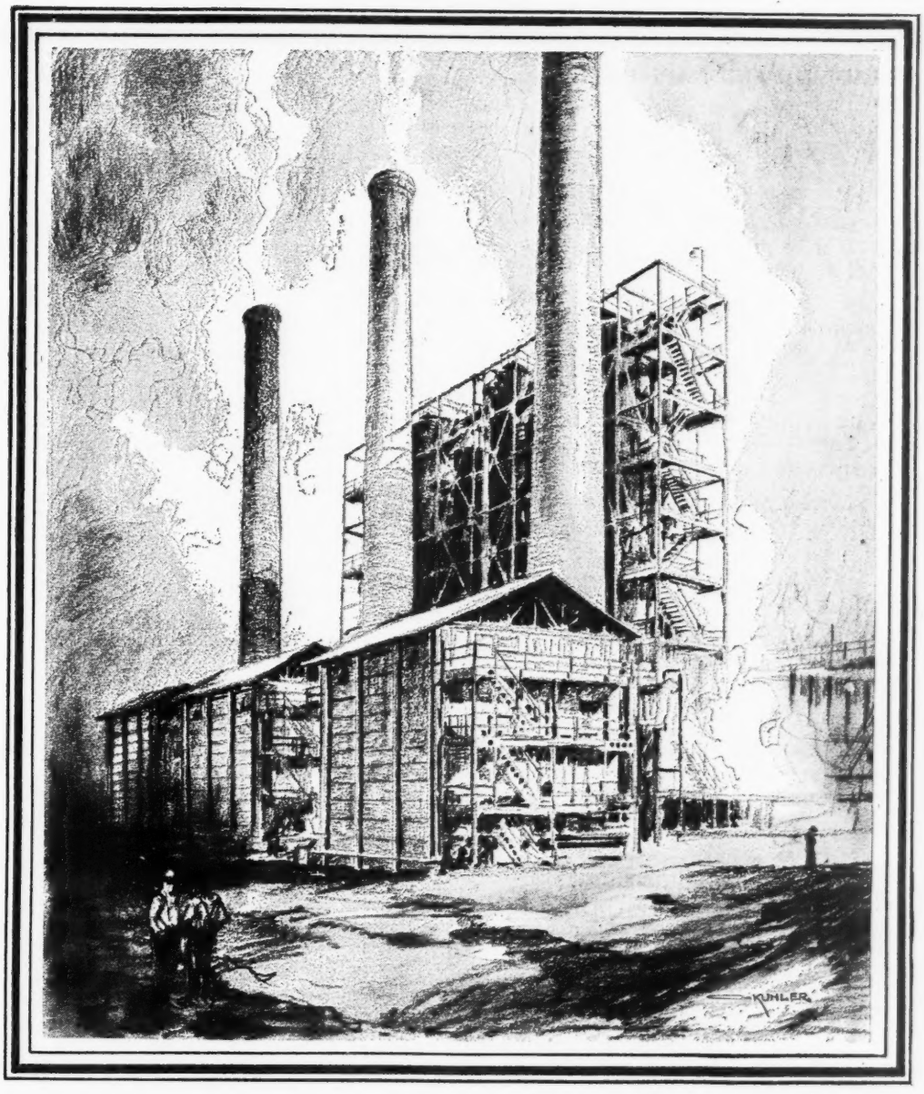
NEW YORK, Mar. 28.—Beacon Oil Co., subsidiary of the Standard Oil Co. of New Jersey, has changed its firm name to Colonial Beacon Oil Co., stockholders of the company ratifying the change at their annual meeting this week.

Retiring directors and officers were reelected.

The change of firm name brings into the company's firm style the "Colonial" trade mark under which its products are marketed.

TO SELL ETHYL GASOLINE

The Omar Refining Co. of Tulsa has been granted a license by the Ethyl Gasoline Corp. to blend Ethyl Gasoline. Their product will be known as Omar-Ethyl Gasoline.



Kellogg MEN BUILD TO ONE STANDARD WITH SELECTED METHODS AND MATERIALS

The job may be a single piece of equipment for an operator in the Argentine or a complete refinery in Arkansas. In either event, Kellogg men, methods and materials invest it with every factor essential to successful performance. Each Kellogg job must measure up to one high Kellogg standard.

The M. W. KELLOGG COMPANY

225 Broadway, New York

LOS ANGELES, CAL., 1031 SOUTH BROADWAY TULSA, OKLA., PHILTOWER BUILDING

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REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

	Apr. 1		Mar. 25		Mar. 18	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.06¼	.06½	.06¼	.06½	.06¼	
56-58 450 endpoint	.06	.06¼	.06	.06¼	.05¾	.06
*58-60 437 endpoint (U. S. Motor)	.06625		.065		.067	
*60-62 437 endpoint	†.06½	.06⅝	†.06½	.06⅝	.06¼	.06½
*60-62 400 endpoint	.071		.0675		.0675	
*64-66 375 endpoint	.075		†.07¼	.07½	.0775	
68-70 360 endpoint	.07⅝	.07⅞	.07⅝	.07⅞	.07½	.07¾
64-66 437 endpoint (blend)	.06¼	.06½	.06	.06¼	.06	.06¼
NORTH TEXAS—						
56-58 450 endpoint	.06	.06¼	.06	.06¼	.05¾	.06
58-60 450 endpoint	.06	.06⅛	.06	.06⅛	.05¾	
58-60 437 endpoint (U. S. Motor)	.06¼	.06½	.06¼	.06⅜	.05⅞	.06⅛
60-62 400 endpoint	.06⅝	.06¾	.06½	.06⅝	.06⅛	.06¼
64-66 390 endpoint	.06¾	.07	.06¾	.07	.06⅝	.06¾
64-66 375 endpoint	.07¼	.07⅜	.07¼	.07⅜	.07	.07¼
68-70 360 endpoint	.07⅝	.07¾	.07⅝	.07¾	.07½	.07¾
64-66 437 endpoint (blend)	.06	.06¼	.06	.06¼	.05¾	.06
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.07		.06¾	.07	.06¾	
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.07		.06¾		.06½	.06¾
PENNSYLVANIA—						
52-54 Naphtha	.07¼		.07¼		.07¼	
54-56 Naphtha	.07¼		.07¼	.07½	.07¼	.07½
58-60 Gasoline	.07½	.07¾	.07½	.07¾	.07½	.07¾
60 Gasoline	.07¾	.08¼	.07¾	.08¼	.07¾	.08¼
62 Gasoline	.07¾	.08½	.07¾	.08¾	.07¾	.08½
64 Gasoline	.08	.09	.08	.09¼	.08	.09
68-70 350 endpoint gasoline	.08¾		.08¾		.08¾	
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.08	.10	.09	.10	.09	.10
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.06¼	.06½	.06¼	.06½	.06¼	.06⅜
56-58 450 endpoint	.06⅛	.06¼	.06	.06¼	.05⅞	.06
58-60 437 endpoint (U. S. Motor)	.06¼	.06½	.06⅛	.06½	.06	.06½
60-62 400 endpoint	.06½	.06¾	.06⅜	.06⅝	.06¼	.06½
64-66 375 endpoint	.07⅛	.07⅜	.07	.07¼	.07	.07¼
68-70 360 endpoint	.07½	.07¾	.07½	.07¾	.07½	.07¾
64-66 437 endpoint (blend)	.06¼	.06½	.06¼	.06½	.06¼	.06½
GULF COAST (Export)—						
58-60 (U. S. Motor)	.08		.08		.08	
60-62 400 endpoint	.09		.09		.09	
61-63 390 endpoint	.09¼		.09¼		.09¼	
64-66 375 endpoint	.09		.09		.09	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

NATURAL GASOLINE

	Apr. 1		Mar. 25		Mar. 18	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05¾		.05¾		.05⅝	.05¾
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05⅝		.05⅝		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05		.05		.04⅝	
Brade BB, 84-92, 375 e.p., rec. 85%	.04⅞		.04¾		.04½	
Grade C, 80-92, 375 e.p., rec. 78%	.04¾		.04⅝	.04¾	.04½	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05¾		.05¾		.05⅝	.05¾
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05⅝		.05⅝		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05		.05		.04⅝	
Grade BB, 84-92, 375 e.p., rec. 85%	.04⅞	.05	.04¾		.04½	
Grade C, 80-92, 375 e.p., rec. 78%	.04¾		.04⅝	.04¾	.04½	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.05¾	.06	.05¾	.06	.05⅝	.05¾
Grade BB, 84-92, 375 e.p., rec. 85%	.05	.05½	.04¾	.04⅞	.04⅝	.04¾
Grade C, 80-92, 375 e.p., rec. 78%	.04¾	.04⅞	.04⅝	.04¾	.04⅝	
CALIFORNIA—						
75-78 375-390 endpoint	.07¼	.07½	.07¾	.08¼	.07¾	.08¼
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05¾		.05¾		.05⅝	.05¾
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05⅝		.05⅝		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05		.04¾		.04⅝	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¾	.05	.04¾		.04½	
Grade C, 80-92, 375 e.p., rec. 78%	.04¾		.04⅝		.04½	

BURNING OIL

	Apr. 1		Mar. 25		Mar. 18	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.04¼	.04½	.04¼	.04½	.04⅛	.04⅜
42-44 water white kerosene	.04⅝	.05	.04⅝	.05	.04½	.04⅝
NORTH TEXAS—						
41-43 water white kerosene	.04⅛	.04¼	.04⅛	.04¼	.04	.04¼
40-42 water white kerosene	.04	.04⅛	.04	.04⅛	.04	
***NORTH LOUISIANA—**						
41-43 water white kerosene	.04¾	.05¼	.04¾	.05	.04¾	.05
***ARKANSAS—**						
41-43 water white kerosene	04¾	.05	.04¾	.05	.04¾	.05
PENNSYLVANIA—						
43 Kerosene prime white	.05¾		.05¾		.05¾	
45 Kerosene water white	.05¾	.06	.05⅞	.06	.05⅞	.06
46 Kerosene water white	.06¼		.06¼		.06¼	
47 Kerosene water white	.06½		.06½	.06¾	.06½	
300 Mineral Seal	.07¼		.07¼		.07¼	
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.04½	.05	.04½	.05	.04½	.05
Engine distillate, 43-44, 445 endpoint	.06½	.07	.06½	.07	.06½	.07
Engine distillate, 42-44, 480 endpoint	.06	.06½	.06	.06½	.06	.06½
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.04¼	.04½	.04⅛	.04⅜	.04⅛	.04⅜
42-44 water white kerosene	.04½	.05	.04¼	.04¾	.04½	.04¾
GULF COAST (Export)—						
41-43 prime white	.06		.06		.06	
41-43 water white	.07		.07		.07	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	Apr. 1		Mar. 25		Mar. 18	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil, per bbl.	.65	.70	.67½	.72½	.67½	.72½
18-22 Fuel Oil, per bbl.	.65	.75	.70	.75	.70	.75
20-22 Fuel Oil, per bbl.	.70	.75	.72½	.75	.72½	.77½
22-26 Fuel Oil, per bbl.	.75	.80	.77½	.82½	.80	.85
24-26 Fuel Oil, per bbl.	.82½	.87½	.82½	.87½	.82½	.87½
26-30 Fuel Oil, per bbl.	.85	.90	.85	.90	.85	.90
28-30 Fuel Oil, per bbl. (industrial)	.95	1.00	.95	1.05	.95	1.05
32-36 Gas Oil (industrial)	.02½	.02⅝	.02½	.02⅝	.02½	
32-36 Gas Oil (straw color)	.02⅝	.02⅞	.02¾	.03	.02⅝	.02⅞
36-38 Distillate	.03		.03		.03	
38-40 Straw Distillate	.03	.03¼	.03⅛	.03¼	.03	.03¼
NORTH TEXAS—						
Below 20 Fuel Oil, per bbl.	.55	.60	.57½	.62½	.57½	.62½
24-26 Fuel Oil, per bbl.	.77½	.80	.77½	.80	.77½	.80
32-36 Gas Oil (straw)	.02⅝	.02½	.02⅝	.02½	.02⅝	.02½
38-40 Straw Distillate	.03		.03		.03	
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.75	.80	.85		.85	
30-32 Gas Oil	.02¾	.03¼	.03	.03⅛	.03	.03⅛
***ARKANSAS—**						
33-36 Distillate	.03	.03¼	.03	.03¼	.03	.03¼
30-32 Gas Oil	.02¾	.03¼	.03	.03⅛	.03	.03⅛
16-22 Refinery Fuel Oil, per bbl.	.75	.80	.80	.90	.85	.90
GULF COAST (South Texas)—						
Gas Oil	.03¾	.04	.03¾	.04	.03¾	.04
Bunker C Fuel (cargo lots), per bbl.	.75	.80	.65	.70	.65	.70
Bunker C Fuel (small lots)	.95	1.00	.95	1.00	.95	1.00
PENNSYLVANIA—						
30-34 Fuel Oil	.04⅜		.04½		.04½	
36-40 Fuel Oil	.04⅜	.04½	.04½	.04¾	.04½	.04¾
CALIFORNIA—						
33-36 Distillate	.03	.03½	.03	.03½	.03	.03½
26-32 Distillate	.02	.02½	.02	.02½	.02	.02½
15-20 Fuel Oil, Bunker (at tidewater)	.70	.80	.70	.80	.70	.80
15-20 Fuel Oil (cargo lots), per bbl.	.60	.75	.60	.75	.60	.75
27 plus Diesel, per bbl.	.90	1.05	.90	1.05	.90	1.05
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.75	.80	.75	.80	.77½	.82½
18-22 Fuel Oil, per bbl.	.65	.70	.65	.70	.67½	.72½
28-30 Fuel Oil, per bbl.	.90	.95	.90	.95	1.00	1.05
32-36 Gas Oil (zero)	.02¾	.02⅞	.02¾	.02⅞	.02¾	.03
32-36 Gas Oil (industrial)	.02⅜	.02½	.02⅜	.02½	.02⅜	.02½
36-38 Distillate	.02¾	.02⅞	.02⅝	.02¾	.02⅞	.03
38-40 Straw Distillate	.02⅞	.03	.03	.03⅛	.03	.03⅛

*Louisiana, Arkansas, Mississippi and East Texas delivery.

LUBRICATING OIL AND WAX

	Apr. 1		Mar. 25		Mar. 18	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06	.07	.06	.07	.06	.07
100 vis., 3 color, 20-25 cold test	.05½	.06	.05½	.06	.05½	.06
150 vis., 3 color, 20-25 cold test	.08½	.09	.08	.08½	.08	.08½
150 vis., 4 color, 20-25 cold test	.08	.08½	.07¾	.08	.07¾	.08
180 vis., 3 color, 23-28 cold test	.10	.10½	.09¾	.10	.09¾	.10
180 vis., 4 color, 23-28 cold test	.09½	.10	.09¼	.09½	.09¼	.09½
180 vis., 5 color, 23-28 cold test	.09	.09½	.09	.09¼	.09	.09¼
200 vis., 3 color, 23-28 cold test	.11½	.12	.11	.11½	.11	.11½
200 vis., 4 color, 23-28 cold test	.11	.11½	.11	.11¼	.11	.11¼
200 vis., 5 color, 23-28 cold test	.10½	.11	.10¼	.10½	.10¼	.10½
240 vis., 3 color, 25-30 cold test	.15	.15½	.14¼	.14½	.14¼	.14½
240 vis., 4 color, 25-30 cold test	.14	.14½	.13¼	.13½	.13¼	.13½
240 vis., 5 color, 25-30 cold test	.13½	.14	.12¾	.13	.12¾	.13
280 vis., 3 color, 25-30 cold test	.17½	.18	.16¾	.17	.16¾	.17
280 vis., 4 color, 25-30 cold test	.16½	.17	.15½	.16	.15½	.16
280 vis., 5 color, 25-30 cold test	.15	.155	.14¾	.15	.14¾	.15
Cylinder Stocks:						
600, steam refined, light green	.09	.11	.09	.11	.09	.11
600, steam refined, dark green	.08	.10	.08	.10	.08	.10
190-200 vis., D color Bright Stock	.41	.42	.41	.42	.41	.42
150-160 vis., D color Bright Stock	.37		.37		.37	
150-160 vis., E color Bright Stock	.32	.35	.32	.35	.32	.35
Waxes:						
124-126 White Crude Scale Wax	.02½	.02⅝	.02½	.02⅝	.02½	.02⅝
PENNSYLVANIA—						
34 Neutral	.07	.07¾	.07¼	.07¾	.07	.07¾
34 Sundebloom	.07¾		.07¾		.07¾	
36 Miners' Neutral	.07½		.07½		.07½	
150, 3 color	.15	.16½	.15½	.17	.15½	.17
180, 3 color	.21	.22	.21	.22	.21	.22
200, 3 color	.25	.26	.25	.26	.25	.26
220, 3 color	.28	.30	.29	.30	.28½	.30
600, steam refined	.23	.24	.24		.24	
635, steam refined	.27	.29½	.27	.29½	.27½	.29½
650, steam refined	.29½	.30	.30		.30	.30½
600, Pennsylvania Flash	.31	.33	.32	.33	.32	.33
630, Pennsylvania Flash	.35		.35		.35	
600, E filtered	.28½	.30	.28½	.30	.28½	.30
600, D filtered	.35½		.35		.35	
Pennsylvania Bright Stocks	.40	.41	.40	.41	.40	.41
*122-124 White Crude Scale Wax	.02⅝	.02¾	.02¾		.02¾	.03
124-126 White Crude Scale Wax	.02¾		.02⅞		.03⅛	

*At New York.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.06½	.06¾	.06½	.06¾	.06½	.06¾
No. 3 color, 200 vis., pale oil	.09¼	.09½	.09¼	.09½	.09¼	.09½
No. 3 color, 300 vis., pale oil	.10¾		.10¾		.10¾	
No. 3½ color, 500 vis., pale oil	.11½	.12	.11½	.12	.11½	.12
No. 4 color, 750 vis., pale oil	.13¼	.13½	.13¼	.13½	.13¼	.13½
No. 5 color, 1,200 vis., pale oil	.16		.16		.16	
No. 5 to 6 color, 1200 vis., pale oil	.15		.15		.15	
No. 5 to 6 color, 200 vis., red oil	.08½	.08¾	.08½	.08¾	.08½	.08¾
No. 5 to 6 color, 300 vis., red oil	.09½	.10	.09½	.10	.09½	.10
No. 5 to 6 color, 500 vis., red oil	.10¾	.11¼	.10¾	.11¼	.10¾	.11¼
No. 5 to 6 color, 750 vis., red oil	.12¾		.12¾		.12¾	
No. 2½ color, 200 vis., pale filtered	.11	.12	.11	.12	.11	.12

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

No. 2½ color, 300 vis., pale filtered	.12	.13	.12	.13	.12	.13
No. 2½ color, 500 vis., pale filtered	.14½	.15	.14½	.15	.14½	.15
No. 2½-3 color, 750 vis., pale filtered	.17	.19	.17	.19	.17	.19
CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½
350 vis., 3½-4 color	.13½	.13¾	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.15	.15½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.11	.11¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.12	.12¼	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.13¼	.14	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.14¼	.15½	.14¼	.15½	.14¼	.15½
500 vis., 5-6½ color	.15	.15¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.16	.16¼	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Apr. 1		Mar. 25		Mar. 18	
Gasoline, U. S. Motor, 58-60, 437	.08½	.08¾	.08½		.08¼	.08½
Kerosene, water white, 41-43	.07¾		.07¾		.07¾	
*Fuel Oil, Bunker "C," 14-16, per bbl.	1.05		1.05		1.05	
Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.04¾	.05¼	.04¾	.05¼	.04¾	.05¼
25 pale Paraffin Oil	.10½		.10½		.10½	
28 pale Paraffin Oil	.07¼		.07¼		.07¼	
28 red Paraffin Oil	.12½		.12½		.12½	
250 red Paraffin Oil	.11½		.11½		.11½	
225 red Paraffin Oil	.10		.10		.10	
200 red Paraffin Oil	.09¼		.09¼		.09¼	
Refined Wax:						
120-122 a.m.p., per lb.	.03⅝		.03⅝		.03⅝	
125-127 a.m.p., per lb.	.04		.04		.04	
130-132 a.m.p., per lb.	.04½		.04½		.04½	
133-135 a.m.p., per lb.	.05½		.05½		.05½	
135-137 a.m.p., per lb.	.05⅝		.05⅝		.05⅝	
Petrolatum in barrels, in carload lots, per pound:						
Dark Green	.01⅞		.01⅞		.01⅞	
Amber	.03⅜		.03⅜		.03⅜	
Extra Amber	.03½		.03½		.03½	
Cream	.06⅜		.06⅜		.06⅜	
Lily White	.06½		.06½		.06½	
Snow White	.08⅜		.08⅜		.08⅜	

*Lighterage 5.0 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Apr. 1	Mar. 25	Mar. 18
Kerosene, prime white	.07¾	.07¾	.07¾
Kerosene, water white	.09	.09	.09
600, steam refined cylinder stocks, in bbls.	.31	.31	.31
635, steam refined	.33	.33	.33
650, steam refined	.37	.37	.37
600, Pennsylvania Flash	.39	.39	.39
630, Pennsylvania Flash	.42	.42	.42
600, Warren E	.38½	.38½	.38½
600, Oil City E	.37½	.37½	.37½
Light 140-150 Bright Stocks	.48	.48	.48
Dark 140-150 Bright Stocks	.47	.47	.47

LOS ANGELES EXPORT PRICES

	Apr. 1		Mar. 25		Mar. 18	
Kerosene, water white	.04	.04½	.04	.04½	.04	.04½
*U. S. Motor Gasoline, 53-55, 437 e.p.	.06¼	.06¾	.06¼	.06¾	.06¼	.06¾

*Prices on coastwise shipments.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Oklahoma City—Same as other Mid-Continent price schedule except Empire Pipe Line Co. posts all oil 40 gravity and above at $1.33 on February 15, 1930.

Corsicana heavy (Jan. 16, 1930)*.....$ .70
Other fields.....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

WEST TEXAS

Iatan*.....Same as North Texas
Crane-Upton-Crockett, Pecos, Winkler, Mitchell and Ector .....See gravity table, Column 3
Howard and Glasscock .....See gravity table, Column 11
Chalk† .....$ .65

*Includes Westbrook Field. †Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (May 20, 1929).....$ .85
Smackover, 24 gravity and above (May 20, 1929) 1.00
Cotton Valley, below 36 gravity (Jan. 17, 1930) ..... .80
Bellevue (Jan. 17, 1930) 1.05
Urania (Jan. 16, 1930) ..... .85
East El Dorado (May 22, 1929) ..... .85
Other fields.....See gravity table

Cotton Valley crude about 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado posted by Magnolia Petroleum Co.

GULF COAST

Grade A (Jan. 15, 1930)* $1.05
Grade B.....See gravity table
Jennings, La. (Jan. 15, 1930)† 1.00
Refugio (light) .....Same as Grade B
Refugio (heavy) (Apr. 1, 1930) ..... .75
Sorrento (Jan. 15, 1930)‡ 1.00
Markham (Jan. 15, 1930)§ ..... .75
High Island (Jan. 15, 1930)¶ ..... .85

*Humble Oil & Refining Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §The Texas Pipe Line Co. ¶Posted by Gulf Coast Pipe Line Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.
(Effective Feb. 15, 1930)

Rock Creek, Wyo. $1.25
Salt Creek.....See gravity table
Big Muddy 1.33
Grass Creek, heavy (July 27, 1928).... .90
Grass Creek, light 1.45
Mule Creek (May 21, 1929) 1.20
Elk Basin 1.45
Lance Creek 1.53
Poison Spider (March 14, 1927) 1.00
Notches (March 14, 1927) ..... .65
Rex Lake (February 22) 1.10
Osage (May 21, 1929) 1.65
Lost Soldier (contract, May 22) 1.05
Hamilton Dome (March 14, 1927) ..... .85
Pedro (May 21, 1929) 1.25
Greybull (May 21, 1929) 1.65
Four Bear (May 21, 1929) ..... .85
Cat Creek (Montana) (Feb. 15, 1930).. 1.45
Sunburst (Montana) (Feb. 15, 1930)... 1.65
Torchlight (May 21, 1929) 1.65
Hogback (New Mexico) (May 21, 1929) 1.70

(Continued on Page 134)

CRUDE OIL GRAVITY TABLE

Gravity—	1 Okla., Kans., N. C. Texas	2 No. La. and Arkansas	3 Crane, Upton Ector, Crockett, Winkler, Pecos, Mitchell, (West Texas) Lea, N. Mex.	4 Stephens, Ark.	5 Wheeler (Texas Panhandle)	6 Gray County (Texas Panhandle)	7 Carson and Hutchinson (Texas Panhandle)	8 Salt Creek, Wyo.	9 Grade B Gulf Coast and Refugio crude	10 Somerset (South Central Texas)	11 Howard and Glasscock, W. Tex.
24 and above.	....	....	....	....	....	....	....	....	....	....	....
Below 24	....	....	....	....	....	....	....	....	....	....	....
Below 25	.60	....	.55	....	....	....	....	....	.90	....	.55
25 to 25.9	.66	....	.58	....	....	....	....	....	.93	....	.58
26 to 26.9	.72	....	.61	....	....	....	....	....	.96	....	.61
27 to 27.9	.78	....	.64	....	....	....	....	....	.99	....	.64
Below 28	....	.78	....	.90	.70	.69	.72	....	....	....	....
28 to 28.9	.84	.84	.67	.94	.70	.69	.72	....	1.02	....	.66
29 to 29.9	.90	.90	.70	.98	.70	.75	.72	.90	1.05	....	.68
30 to 30.9	.96	.96	.73	1.02	.76	.81	.72	.96	1.08	....	.70
31 to 31.9	1.02	1.02	.76	1.06	.82	.87	.72	1.02	1.11	....	.72
32 to 32.9	1.08	1.08	.79	1.10	.88	.93	.78	1.08	1.14	1.05	.74
33 to 33.9	1.11	1.11	.82	....	.91	.96	.81	1.11	1.17	1.07	.76
34 to 34.9	1.14	1.14	.85	....	.94	.99	.84	1.14	1.20	1.09	.78
35 to 35.9	1.17	1.17	.88	....	.97	1.02	.87	1.17	1.23	1.11	.80
36 to 36.9	1.20	1.20	.91	....	1.00	1.05	.90	1.20	1.26	1.13	.82
37 to 37.9	1.23	1.23	....	....	1.03	1.08	.93	1.23	1.29	1.15	....
38 to 38.9	1.26	1.26	....	....	1.06	1.11	.96	....	1.32	1.17	....
39 to 39.9	1.29	1.20	....	....	1.09	1.14	.99	....	1.34	....	....
40 to 40.9	1.32	1.32	....	....	1.12	1.17	1.02	....	1.36	....	....
41 to 41.9	1.35	1.35	....	....	1.15	1.20	1.05	....	1.38	....	....
42 to 42.9	1.38	1.38	....	....	1.18	1.23	1.08	....	1.40	....	....
43 to 43.9	1.41	1.41	....	....	1.21	1.26	1.11	....	1.42	....	....
44 and above.	1.44	1.44	....	....	1.24	1.29	1.14	....	1.44	....	....

Column 1, Note—Above prices posted by Prairie Oil & Gas Co. on February 15, 1930, by Sinclair Oil & Gas Co. February 13, 1930. On January 15, 1930, Humble Oil & Refining Co. posted North Central Texas crude at following prices: Below 25 gravity 60 cents; a 6-cent differential added per degree to 32-32.9 gravity at $1.08 and a 3-cent differential above making 44 gravity and above at $1.44. The Carter Oil Co. posted this schedule for Oklahoma and Kansas, January 16. Same date Magnolia posted these prices in North Central Texas. On January 17, Magnolia posted the schedule for Oklahoma and Kansas.

North Central Texas—Includes Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona and Moran Pools.

Column 2—Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, Cotton Valley above 36 gravity, DeSoto, Haynesville, Homer and El Dorado only). Texas Pipe Line Co., January 15, 1930, Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., January 16, 1930.

Column 3—Humble Oil & Refining Co., January 15, 1930, and Magnolia Petroleum Co., January 16, 1930.

Column 4—Atlantic Oil Producing Co. and Louisiana Oil Refining Corp., May 21, 1929.

Columns 5, 6 and 7—Humble Oil & Refining Co., January 15, 1930, and Magnolia Petroleum Co., January 16, 1930. Adopted by Prairie Oil & Gas Co., February 15.

Column 8—Midwest Refining Co., February 15, 1930. All crude over 37 gravity $1.23 per barrel.

Column 9—Humble Oil & Refining Co., April 1, 1930.

Column 10—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

Column 11—Humble Oil & Refining Co., January 15, 1930, Magnolia posted Howard-Glasscock crude same schedule as West Texas, January 16, 1930.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective March 11, 1930)

Gravity—	1 Seal Beach, Salt Lake, Newport, Summerland, Lawndale, Los Angeles Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Huntington Beach, Signal Hill, Inglewood	2 Whittier, La Habra, Coyote Hills	3 Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 Montebello	5 Santa Fe Springs (Nov. 8)	6 Santa Maria, Coalinga	7 Wheeler Ridge, Fruitvale	8 Orcutt, Ventura, Rincon	9 Ventura Avenue (Nov. 8)	10 Elwood Terrace	Athens, Rosecrans, Dominguez
14 to 14.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
15 to 15.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
16 to 16.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
17 to 17.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
18 to 18.9	.76	.76	.62	.71	....	.62	.62	.65	.76	....	....
19 to 19.9	.82	.82	.70	.77	....	.70	.70	.70	.82	....	....
20 to 20.9	.88	.87	.78	.83	....	.78	.78	.78	.88	....	....
21 to 21.9	.94	.93	.86	.90	.92	.86	.86	.90	.91	....	....
22 to 22.9	1.00	.98	.94	.97	.95	.94	.94	.95	.94	....	....
23 to 23.9	1.07	....	1.02	1.05	1.01	1.02	1.02	1.02	1.00	....	....
24 to 24.9	1.14	....	1.09	1.11	1.07	1.07	1.07	1.10	1.07	....	1.14
25 to 25.9	1.21	....	1.16	1.17	1.13	1.12	1.12	1.18	1.14	....	1.19
26 to 26.9	1.28	....	1.23	1.23	1.19	1.17	1.17	1.26	1.21	....	1.24
27 to 27.9	1.35	....	1.30	1.29	1.25	1.23	1.22	....	1.28	....	1.29
28 to 28.9	1.42	....	1.35	1.35	1.31	1.27	....	....	1.35	....	1.34
29 to 29.9	1.46	....	1.41	1.38	1.37	1.31	....	....	1.39	....	1.39
30 to 30.9	1.50	....	1.47	1.41	1.43	1.35	....	....	1.43	....	1.45
31 to 31.9	1.55	....	1.53	....	1.49	1.39	....	....	1.48	....	1.51
32 to 32.9	1.60	....	1.59	....	1.55	1.43	....	....	1.53	....	1.57
33 to 33.9	1.65	....	1.65	....	1.60	1.47	....	....	1.59	....	1.64
34 to 34.9	1.70	....	....	....	1.65	1.51	....	....	1.65	1.32	1.71
35 to 35.9	1.75	....	....	....	1.70	1.55	....	....	1.71	1.39	1.78
36 to 36.9	1.80	....	....	....	1.75	....	....	....	....	1.46	1.84
37 to 37.9	1.85	....	....	....	1.80	....	....	....	....	1.53	1.90
38 to 38.9	1.90	....	....	....	1.85	....	....	....	....	1.60	1.96
39 to 39.9	....	....	....	....	1.90	....	....	....	....	1.66	2.02
40 to 40.9	....	....	....	....	....	....	....	....	....	1.72	2.08
41 to 41.9	....	....	....	....	....	....	....	....	....	1.78	2.14
42 to 42.9	....	....	....	....	....	....	....	....	....	1.84	2.20

KERN RIVER, NEWHALL-McKITTRICK, MOUNT POSO AND ROUND MOUNTAIN 11 to 13.9 gravity, 50 cents; 14 gravity and above, 55 cents, effective March 11. On March 11, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 50 cents.

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity.

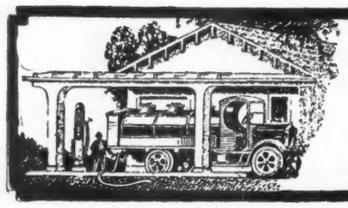
Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; lost hills, 11 to 34.9 gravity; oil below 14 gravity posted at 50 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.

Kettleman Hills, 55 gravity and above, $1.65 (posted by Standard Oil Co. of California).



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Apr. 1

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago†	17.0	18.0	3.0	13.0
Decatur, Ill.	17.2	18.2	3.0	13.1
E. St. Louis	16.4	17.4	3.0	12.2
Joliet	17.4	18.4	3.0	13.3
Peoria	17.2	18.2	3.0	13.1
Quincy	17.2	18.2	3.0	12.9
Davenport, Ia.	17.5	18.5	3.0	13.3
Des Moines	17.5	18.5	3.0	13.3
Keokuk	17.5	18.5	3.0	13.3
Sioux City	17.1	18.1	3.0	12.9
Duluth, Minn.	18.5	19.5	3.0	13.9
Mankato	18.1	19.1	3.0	13.7
Minneapolis	18.2	19.2	3.0	13.9
LaCrosse, Wis.	17.2	18.2	2.0	14.0
Milwaukee	16.1	17.1	2.0	12.9
Madison	16.3	17.3	2.0	13.1
Detroit, Mich.	17.8	18.8	3.0	14.7
Grand Rapids	17.7	18.7	3.0	14.6
Saginaw	17.9	18.9	3.0	14.8
Evansville, Ind.	18.0	19.0	4.0	14.0
Fort Wayne	18.4	19.4	4.0	14.4
Indianapolis	18.2	19.2	4.0	14.2
South Bend	18.4	19.4	4.0	14.4
Fargo, N. D.	19.9	20.9	3.0	15.9
Huron, S. D.	19.3	20.3	4.0	14.7
Sioux Falls	18.1	19.1	4.0	14.4
K. C., Mo.*	16.9	17.9	3.0	11.6
Springfield*	16.8	17.8	3.0	12.5
St. Louis*	15.9	16.9	2.5	12.3
St. Joseph	16.5	17.5	2.0	12.2
Wichita, Kans.	15.8	14.8	3.0	11.8
Bartlesville, Okla.	16.5	17.5	4.0	11.5

*State tax 2 cents; remainder city tax.

†Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline; 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents; 100,000 gallons or more 4½ cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	14.7	12.9
V. M. & P. Naphtha	16.7	13.9
Cleaner's naphtha	17.0	14.9
Stanisol	17.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	16.0	20.0	4.0	12.0
Fort Worth	16.0	19.0	4.0	12.0
Houston	15.0	19.0	4.0	11.0
San Antonio	15.0	19.0	4.0	11.0
El Paso	16.0	20.0	4.0	14.0
Texarkana	15.0	17.0	4.0	12.0
Muskogee*	14.0	16.0	4.0	10.0
Okla. City*	15.0	18.0	4.0	10.0
Tulsa*	15.0	19.0	4.0	10.0
Ft. Smith, Ark.	14.0	16.0	5.0	12.0
Little Rock	18.0	18.0	5.0	13.0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	16.0	18.0	4.0	15.5
Pueblo	18.0	19.0	4.0	15.5
Grand Junction	22.0	25.0	4.0	19.0
Casper, Wyo.	18.0	21.0	4.0	14.0
Cheyenne	19.5	22.5	4.0	15.5
Butte, Mont.	23.5	26.5	5.0	20.0
Helena	23.5	26.5	5.0	20.0
Salt Lake, Utah	20.0	20.0	3.5	17.0
Albu'que, N. M.	20.0	22.0	5.0	17.0
Boise, Idaho	23.5	26.5	5.0	19.0
Twin Falls	23.5	26.5	5.0	19.0

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	15.0	*21.0	...	13.0
Philadelphia	15.0	*21.0	...	13.0
Scranton	15.0	*21.0	...	13.0
Allentown	15.0	*21.0	...	13.0
Altoona	15.0	*21.0	...	13.0
Erie	15.0	*19.0	...	13.0
Dover, Del.	18.0	20.0	3.0	13.0
Wilmington	18.0	20.0	3.0	13.0
Springf'd, Mass.	15.5	17.5	2.0	12.5
Worcester	15.3	17.3	2.0	12.3
Boston	14.5	16.5	2.0	11.2
Providence, R.I.	14.7	16.7	2.0	11.7
Hartford, Conn.	15.5	17.5	2.0	12.5
New Haven	15.6	17.6	2.0	12.6

*Includes tax of 4.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	15.6	17.6	2.0	14.6
New York*	14.3	16.3	2.0	13.3
Buffalo	15.8	17.8	2.0	13.8
Rochester	16.0	18.0	2.0	13.0
Syracuse	16.8	18.8	2.0	13.8
Boston, Mass.	14.5	16.5	2.0	12.5
Augusta, Me.	17.8	19.8	4.0	13.8
Manch't'r, N. H.	17.4	19.4	4.0	13.4
Burlington, Vt.	17.6	19.6	4.0	14.3

*Prices in steel barrels.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	20.0	21.0	4.0	15.5
Augusta	21.0	23.0	4.0	15.5
Macon	21.0	23.0	4.0	14.0
Savannah	20.0	22.0	4.0	14.0
Birm'ham, Ala.	20.0	22.0	5.0	14.5
Mobile	17.0	17.0	4.0	13.5
Montgomery	20.0	22.0	4.0	15.0
Clarks'le, Miss.	18.0	20.0	5.0	12.5
Jackson	19.0	21.0	5.0	13.0
Natchez	18.5	20.5	5.0	13.0
Gulfport	20.5	22.5	5.0	13.0
Vicksburg	18.5	20.5	5.0	13.0
Jack'ville, Fla.	20.0	22.0	6.0	14.0
Miami	21.0	23.0	6.0	14.0
Pensacola	18.0	20.0	6.0	13.5
Tampa	20.0	22.0	5.0	13.0
Lexington, Ky.	18.0	20.0	5.0	14.5
Covington	19.0	20.0	5.0	14.5
Louisville	19.0	21.0	5.0	13.0
Ashland	19.0	21.0	5.0	15.0
Catlettsburg	19.0	21.0	5.0	15.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. Pensacola, Birmingham and Mobile taxes include 1-cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City	16.5	18.5	2.0	13.5
Newark, N. J.	15.5	17.5	2.0	12.5
Annapolis, Md.	18.0	20.0	4.0	13.0
Baltimore	17.2	19.2	4.0	10.5
Cumberland	19.0	21.0	4.0	14.0
Washington	15.7	17.7	2.0	12.7
Danville, Va.	19.8	21.8	5.0	13.8
Norfolk	18.3	20.3	5.0	11.0
Petersburg	19.3	21.3	5.0	13.3
Roanoke	20.0	22.0	5.0	14.0
Richmond	18.7	20.7	5.0	12.7
Charles'n, W.Va.	18.5	20.5	4.0	12.5
Keyser	19.1	21.1	4.0	14.1
Parkersburg	17.2	19.2	4.0	11.2
Wheeling	18.4	20.4	4.0	12.4
Charlotte, N. C.	20.3	22.0	5.0	14.3
Hickory	20.8	22.8	5.0	14.8
Mt. Airy	20.5	22.5	5.0	14.5
Salisbury	20.7	20.7	5.0	14.7
Charleston, S.C.	19.3	21.3	6.0	12.3
Columbia	21.2	23.2	6.0	14.2

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
San Francisco	20.0	23.0	3.0	15.5
Los Angeles	19.5	22.5	3.0	15.5
Reno, Nev.	25.0	28.0	4.0	19.0
Portland, Ore.	19.5	22.5	4.0	16.5
Seattle, Wash.	18.5	21.5	3.0	16.5
Tacoma	20.5	23.5	3.0	16.5
Spokane	22.5	25.5	3.0	20.5
Phoenix, Ariz.	18.0	22.0	4.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where discount is 1 cent.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	18.25	20.25	4.0	13.25
McCook	19.75	21.75	4.0	14.75
Norfolk	18.75	20.75	4.0	13.75
N. Platte	19.75	21.75	4.0	14.50
Scottsbluff	19.75	21.75	4.0	14.25

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points*	18.0	19.0	4.0	†12.0

*Dealers and commercial accounts 2 cents under tank wagon.

†Service station price 14 cents.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	15.0	15.0	5.0	12.0
Baton Rouge	15.0	15.0	4.0	14.0
Alexandria	16.0	18.0	5.0	14.0
Lafayette†	17.0	19.0	5.0	14.0
Lake Charles†	16.0	18.0	5.0	14.0
Shreveport	15.0	17.0	4.0	14.0
Knoxv'le, Tenn.	19.0	20.0	5.0	16.0
Memphis	17.0	19.0	5.0	13.5
Chattanooga	19.0	20.0	5.0	16.0
Nashville	18.0	20.0	5.0	16.0
Bristol	19.0	21.0	5.0	14.0
Lt. Rock, Ark.	16.0	16.0	5.0	13.0

*Tax of 5 cents includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

†Includes 1-cent parish tax.

TANK WAGON CHANGES

Standard Oil Co. of Kentucky reduced the gasoline tank wagon price 1 cent in Ashland, Ky., and Cattletsburg, Ky., to 19 cents March 27.

Standard Oil Co. of Louisiana reduced the gasoline station price 2 cents in Little Rock, Ark., to 16 cents March 27.

MASON DAY LEAVES SINCLAIR

Henry Mason Day has resigned as vice president of Sinclair Exploration Co. He will enter another field, in connection with which his plans will be announced later. Mr. Day has been associated with Sinclair interests, principally in foreign developments, for the past six years. In addition to this work, however, he has represented the parent corporation in many important negotiations, notably in acquisition of Venezuelan Petroleum and other properties.

CALIFORNIA HEARING ADJOURNED TO APRIL 14

LOS ANGELES, Calif., Mar. 31.—After three days devoted to arguments concerning the proposed modification of the court injunction order issued by Superior Court Judge William Hazlett against Santa Fe operators, charged with unreasonable gas wastage under the state gas conservation law, hearing was adjourned to April 14.

Recommendations were offered by the committee of three field engineers and a technical report of Santa Fe Springs Field was submitted by Dr. Stanley C. Herold, petroleum engineer for the State.

The committee's report contained six recommendations. One suggested the production of as much oil as possible from allotted amount of gas during specified period, after which wells should be shut in for rest of that period.

Another suggestion was formation of a pool of leases which would permit wells in affected town lot area to obtain better proportion of oil from pooled gas allotment for the particular area.

A motion to modify the gas wastage temporary injunction was made by attorneys for the Bandini Petroleum and Wilshire Annex Oil interests, these operators contending that they are being seriously injured financially due to the restraining order.

CRUDE OIL PRICES

(Continued from Page 133)

Artesia (New Mexico) (Feb. 15, 1930)	1.00

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (Jan. 15, 1930)*	$1.05
Luling (Jan. 16, 1930)*	.75
Mirando (Jan. 15, 1930)†	.75
Salt Flat (Jan. 15, 1930)§	1.05
Rockdale Minerva (April 15):	
Below 28 gravity	1.25
28-38.9 gravity	1.27
39-39.9 gravity	1.29
40 and above	1.31
Thrall‡	
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co. †Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co. ‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight. §Humble Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency

(Effective Feb. 17, 1930)

Penna Grade Oil in New York Transit Lines (New York)	$2.80
Bradford District Oil in National Transit Lines (Pennsylvania)	2.80
Penna Grade Oil in National Transit Lines (Pennsylvania)	2.80
Penna Grade Oil in Southwest Pennsylvania Lines (West Virginia)	2.75
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	2.65
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.45
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 22, 1929)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Line (Feb. 17, 1930)	1.55
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s Lines (Feb. 17, 1930)	1.65
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (Feb. 17, 1930)	1.37
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan. 29)	.60
Wayne District Oil in Cumberland Pipe Lines (Feb. 17, 1930)	1.24

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective Feb. 15, 1930)

Lima	$1.65
Wooster	1.75
Illinois	1.60
Indiana	1.42
Princeton	1.60
Plymouth	1.18
Waterloo (Nov. 17, 1926)	1.35
Western Kentucky	1.50
Dundee, Mich. (Feb. 13, 1930)‖	
....Same as Mid-Continent gravity scale	
Upper and Lower Traverse sands, Mich.‖	
....Same as Mid-Continent gravity scale	
Midland, Mich. (Feb. 6, 1930)*	1.25
Saginaw, Mich., Saginaw sand (Feb. 10)†	1.89
Saginaw, Mich., Berea sand (Feb. 10)	1.79
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (Mar. 15)‡	1.50
Oil in line in Stoll Oil Refinery Co. in Oil City, Ky. (Feb. 19, 1930)§	1.45
Oil Springs (Canada) (Feb. 15, 1930)¶	2.12
Petrolia (Canada) (Feb. 15, 1930)¶	2.15

*Posted by Pure Oil Co. †Posted by Sun Oil Co. ‡Posted by Paragon Development Co. §Posted by Stoll Oil Refining Co. ¶Posted by Imperial Oil Co., Ltd. ‖Posted by Standard of Indiana for boat shipment.

MEXICAN CRUDE

Panuco*	$ .67

*Based on February transactions.

SINCLAIR THREE-GAS SERVICE

In these days of keen competition with so many different engines and so many different motoring conditions why not let your customers choose their fuel from three different types and let each one get the kind of gasoline that is *just right for his own car and his style of driving?* Here is Sinclair Aircraft Gasoline, the *Ace* of high test gasolines, to give quick start and lightning getaway—brilliant, flashy performance in traffic or in the open. It gets away like a rocket! Sinclair Aircraft is the Ace of high test gasolines because it is specially manufactured at Sinclair Refineries, meeting the requirements of the Federal Specifications Board for Aviation Gasoline—domestic grade—and gives sustained power. Due to its careful fractionation it is free from dissolved gases which cause gas locks, uneven distribution, galloping and engine balk . . . Sinclair H-C Gasoline delivers high compression performance and stops knocks, even on a tough hill. It's *all* gasoline—nothing added. And if a motorist prefers to pay three cents less per gallon—Sinclair Regular Gasoline has economy and mileage, with plenty of eager power. The quality gasoline at a popular price! Why not be the dealer in your community to offer motorists this progressive gasoline service?

SINCLAIR REFINING COMPANY, INC., 45 Nassau St., New York—*Atlanta, Chicago, Houston, Kansas City*

Gulf Oil Corporation Reports Gain

Volume of Sales Increased Although Market Prices Decreased Substantially. Important Additions and Improvements

Report of Gulf Oil Corp. and subsidiaries for year ended December 31, 1929, shows net income of $44,489,685 after interest, depreciation, depletion, taxes, minority interest, etc., equivalent to $9.83 a share (par $25) on 4,525,221 shares of stock. This compares with $36,325,140 or $8.06 a share on 4,504,921 shares in 1928.

The volume of products sold and cash realized therefrom, the statement says, were substantially larger than for the previous year, notwithstanding lower market prices prevailing for the principal products. The inventory of crude and refined oils shows an increase of about $18,000,000 in the year.

During the year Gulf Oil Corp. and operating companies made additional investments in properties, plant and equipment of $79,641,000. The principal items comprise: Producing department, $21,855,000; pipe line department, $9,960,000; a new refinery at Sweetwater, Tex., and important additions and improvements to refineries at Port Arthur, Philadelphia, Bayonne and New York, $29,621,000; increase in tanker fleet, $2,440,000; bulk and retail service stations and other equipment, $15,468,000, and general items, $297,000.

The corporation sold to trustees under the second stock purchase plan adopted on October 1, 1928, 20,000 shares at an average price a share of $152.17, for which it received in cash $3,089,084.

Net earnings of $44,489,685 for 1929 are equal to $9.83 a share, par $25, on 4,525,221 shares, compared with net income of $36,325,149 or $8.06 a share on 4,504,921 shares in 1928. The earned surplus of the company now amounts to $205,875,130.

In his remarks to stockholders, W. L. Mellon, president of the company, states: "The volume of the company's sales continues to increase, but owing to the unusual competition, prices of the major commodities have decreased substantially, so that it is now difficult to make a prediction as to the earnings for the coming year. However, I believe that with the company's favorable position and modern plant and equipment, a fair return may be expected.

"The corporation has found itself in the position, during the past two years, of having a continually increasing oil production," Mr. Mellon said, "even though it took every legal opportunity to curtail its production through cooperation in conservation arrangements in the different districts. For this reason, it has been necessary to make the important additions and improvements to plant and facilities as shown. This condition of required investment will continue, though to a lesser degree, during the coming year and the management believes it is prudent to continue the present policy of retaining the surplus earnings for reinvestment."

Developments of Texas Gulf Sulphur Co., under its contract for extraction of sulphur from Gulf Production Co.'s properties at Boling Dome, Texas, have been entirely satisfactory, the company states, adding that it receives a 50 per cent participation. Operations have proceeded to such an extent that production in substantial quantities is being obtained.

Standard of Kentucky

Report of Standard Oil Co. of Kentucky for year ended December 31, 1929, shows net profit of $6,652,992, after Federal taxes, equivalent to $2.58 a share on (par $10) 2,577,124 shares of stock. In 1928, net profit was $4,745,604 or $6.94 a share on 684,120 old shares of $25 par outstanding practically the entire year, and $1.85 a share on 2,565,460 shares of $10 par outstanding at end of that year. The above 1928 earnings do not include tax adjustment for prior years, amounting to $1,980,186, which was credited to surplus account.

Southwest Gas

Report of Southwest Gas Utilities Corp. and subsidiaries for year ended December 31, 1929, shows profit of $433,255 after interest, depreciation, depletion, amortization, minority interest of subsidiaries, etc., but before Federal taxes. Stock consists of 30,632 shares of no-par $6.50 preferred and 167,220 shares of no-par common.

Paragon Refining

Paragon Refining Co. reports for year ended December 31, 1929, net profit of $365,817 after interest, depreciation and Federal taxes, equivalent after dividend requirements on the $3 Class A preferred stock, to 56 cents a share on 426,666 no par shares of Class B common stock. This compares with $654,672 or $1.66 a share on 360,000 Class B shares in 1928.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended March 26 Sales	Week ended March 26 High	Week ended March 26 Low	Week ended March 26 Close	Stocks		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
26¼	18	14,400	26¼	25	26¼	Amerada Corp.	(sh)	922,075	N.P.	50cQ	1-31-30	37⅝	27⅝	43⅞	27⅛	42⅝	17½
37	20½	1,900	35⅛	34⅛	35	American Republics Corp.	(sh)	209,180	N.P.	.....	3-20-29	82½	35⅛	85	51⅛	64¾	12½
43	32½	50	43	43	43	Associated Oil		$57,260,300	$25	50cQ	12-31-29	50¼	35	53⅜	37½	47¼	34½
49¼	36¼	11,600	48⅞	47½	48	Atlantic Refining		$50,000,000	$25	25cQ	12-16-29	131⅜	104	66⅜	50	77⅜	30
30½	20⅛	83,600	30½	29⅜	30⅜	Barnsdall Corp.		$45,236,650	$25	50cQ	12- 7-29	35½	20¾	53	20	49⅛	20
27½	19½	10,900	27½	26¾	27½	Continental Oil of Delaware	(sh)	4,741,554	N.P.	.....	3-31-27	..	..	..	..	47⅛	18
70⅜	49⅛	8,400	69½	67¾	68½	General Asphalt		$20,785,400	N.P.	50cQ	.....	96¾	65	94⅞	68	94¾	42¼
106	52¼	20,400	106	99⅝	105½	Houston Oil		$25,000,000	$100	.....	.....	175¾	60⅛	167	79	109	26
27⅞	20¼	3,200	27¾	27⅛	27⅛	Independent Oil & Gas	(sh)	1,333,572	N.P.	50cQ	1-31-30	32¾	17⅝	38⅜	21¾	39⅜	17¾
28⅜	17¾	78,600	25⅞	23⅛	23⅞	Indian Refining		$12,307,370	$10	.....	5-31-24	12⅛	7⅝	39⅝	9	53	13⅛
25½	21¼	900	25	24	24	Lago Oil & Transport	(sh)	3,992,122	N.P.	.....	5- 1-27	37¾	20½	39⅛	27⅜	38⅜	16½
10¾	8	100	10⅛	10⅛	10⅛	Louisiana Oil Refining	(sh)	1,190,063	N.P.	.....	.....	18⅛	10	19¾	9⅜	18	7
10⅜	5⅛	100	9⅜	9⅜	9⅜	Maracaibo Oil	(sh)	330,000	N.P.	.....	.....	22¾	12	25½	12½	18½	5⅛
35⅞	16½	35,300	34¼	33	33½	Mexican Seaboard	(sh)	1,276,873	N.P.	.....	12-15-20	9¼	3	73	4⅝	69⅜	9¼
32⅜	23½	13,300	32⅜	31½	31⅝	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	50cQ	12-15-29	39⅜	25½	44½	25⅛	39⅞	22¼
		No sales.				Middle States, ctfs.§		$24,298,850	$10	.....	7- 1-23	3¾	1⅝	7⅜	2⅜	5⅛	¾
60⅛	51⅝	200	55	54½	55	Pan American P. & T.		$50,084,700	$50	.....	10-20-27	65⅞	40⅛	54⅞	38¼	69	40½
60¼	50½	200	55	55	55	Pan American P. & T. "B"		$121,105,050	$50	.....	11-15-24	66⅜	40¼	58⅞	37¾	69¼	40½
		No sales.				Pan American Western B§		$400,000	N.P.	.....	1-30-27	37⅞	16¾	28⅜	15½	18½	13⅝
8⅞	4⅛	1,200	8⅞	7⅝	7⅝	Panhandle P. & R.	(sh)	199,370	N.P.	.....	.....	18⅞	8	21¾	11½	15¼	3
51½	47½	100	51½	51½	51½	Panhandle P. & R. pfd.		$2,564,400	$100	.....	7- 2-23	83	54	108	70	76	47½
39	29⅛	8,100	39	38⅝	38⅞	Phillips Petroleum	(sh)	2,406,796	N.P.	50cQ	1- 2-30	60¼	36¼	53⅞	35¼	47	24¼
2½	1	1,800	2⅛	2	2	Pierce Oil Corp.		$29,622,831	$25	.....	.....	1⅛	½	5¼	½	3⅜	1
6⅞	2¼	21,400	5⅞	5½	5¾	Pierce Petroleum	(sh)	2,500,000	N.P.	.....	.....	5½	2½	7	3½	5⅞	½
52¼	45	1,100	49	48	48	Prairie Oil & Gas		$61,720,125	$25	50cQ*	12-31-29	55½	45⅝	68	46	65⅝	40½
60	54⅛	1,300	56	55½	55⅝	Prairie Pipe Line		$101,250,000	$25	75cQ†	12-31-29	190	130¾	280	172	65	45
11⅞	6½	1,400	11¼	11	11	Producers & Refiners		$37,438,950	$50	.....	9-15-23	33⅞	16¾	29⅞	16	25⅞	4
38⅛	31	20	38	38	38	Producers & Refiners pfd.		$2,845,350	$50	.....	5- 1-25	50	36⅞	49⅝	41	46¾	25½
25½	21⅛	4,200	25	24⅜	24⅝	Pure Oil		$75,959,250	$25	37½cQ	12- 2-29	33½	25	31⅝	19	30¾	20
28¼	22¼	6,500	26⅝	26	26¼	Richfield Oil		$47,964,650	$25	50cQ	11-15-29	28⅝	25⅜	56	23	49⅝	20
24½	16½	2,700	23½	23	23¼	Rio Grande Oil	(sh)	1,200,000	N.P.	$2A	7-25-29	..	..	37½	32	42½	15
54⅝	49¼	5,600	53	52½	52¾	Royal Dutch, N. Y.	(sh)	611,303	$1.873	.....	9-13-29	54½	44¼	64	44⅝	64	43¼
47	42¾	400	45	45	45	Shell Transport & Trading Co.		£19,654,274	£1	$1.45	7-23-29	48⅝	40½	47⅞	41⅜	57½	40⅝
24	21	2,100	24	23¾	23¾	Shell Union Oil	(sh)	13,000,000	N.P.	35cQ	12-31-29	31¾	24⅝	39¼	23¼	31⅜	19
37	22⅞	21,100	35	34	35	Simms Petroleum		$8,060,380	$10	40cQ	12-14-29	25⅜	14¼	27¼	18⅛	40⅛	15
28¼	21⅝	15,600	28	27⅝	27⅝	Sinclair Consolidated	(sh)	5,500,000	N.P.	50cQ	1-15-30	22⅜	15	46¾	17⅜	45	21
111	109	200	110½	110¼	110½	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	11-15-29	104½	97	110	102½	111	103
35⅞	28⅞	2,400	35¾	34⅝	34⅝	Skelly Oil		$27,237,750	$25	50cQ	12-16-29	37¾	24⅛	42⅝	25	40½	28
67	55½	6,400	66½	66⅛	66¼	Standard Oil of California	(sh)	12,594,098	N.P.	62½cQ	12-16-19	60⅜	50⅜	80	53	81⅞	51½
74⅞	58	87,500	74⅞	73	74¾	Standard Oil of New Jersey		$620,079,800	$25	25cQ*	12-16-29	41⅜	35⅛	59⅜	37¾	83	49
35⅞	31¼	8,200	35⅞	35½	35¾	Standard Oil of New York		$434,094,575	$25	40cQ	12-16-29	34¼	29¾	44¼	28¾	48⅛	31¾
65¾	53	200	64⅞	64⅛	64⅛	Sun Oil	(sh)	1,297,627	N.P.	25cQ	12-16-29	34⅞	30	77	31½	86⅜	55
8⅝	5¼	3,100	7⅞	7½	7½	Superior Oil Corp.	(sh)	2,324,938	N.P.	.....	12-20-20	..	..	..	..	24	5¼
58⅜	50⅞	10,100	58⅜	57¾	58⅜	The Texas Corporation		$211,076,650	$25	75cQ	1- 1-30	58	45	74¾	50	71⅞	50
14½	8⅞	2,800	13¼	12⅝	13	Texas Pacific Coal & Oil Co.		$8,380,340	$10	2½%A‡	12-31-29	18⅞	12	26⅝	12⅛	23⅞	9½
24⅜	19½	300	24⅜	23⅝	24⅜	Tide Water Oil	(sh)	2,191,759	N.P.	20cQ	12-31-29	29¼	19	41½	19⅝	40	14
91¾	86⅛	200	91¾	90⅛	90⅛	Tide Water 5½% pfd.		$20,705,200	$100	$1.25Q	11-15-29	90¼	85	100⅛	86	97½	85⅛
15⅜	10¾	16,700	15⅜	15	15¼	Tide Water Associated	(sh)	4,796,158	N.P.	30cS	2-15-30	19¼	15¾	25	14¾	23½	10
89¾	78	300	87	86½	86½	Tide Water Associated pfd.		$72,844,300	....	$1.50Q	2- 2-30	..	..	..	..	90⅞	74⅛
20⅞	16¼	8,700	20½	19⅜	19⅝	Transcontinental Oil	(sh)	3,742,029	N.P.	.....	.....	10⅜	3¾	14¾	7¼	15¼	5⅛
47⅜	41⅛	500	46½	46	46	Union Oil of California		$94,798,100	$25	50cQ	11- 9-29	56½	39⅝	58	42⅜	57	42⅛
36½	33	400	34⅞	34½	34½	Union Tank Car		$31,061,200	$100	$1.25Q	12- 2-29	127½	94	128⅛	110	163¾	121⅞
20⅞	16⅝	2,400	18⅞	18	18	Warner-Quinlan	(sh)	356,000	N.P.	50cQ	1- 2-30	34½	24½	44⅞	26	42⅞	15
29½	26	200	29½	29½	29½	White Eagle Oil & Refining	(sh)	490,000	N.P.	50cQ	1-20-30	27½	20	38	20⅛	38	25
18½	11½	400	18½	18	18	Wilcox Oil & Gas	(sh)	2,400,000	N.P.	.....	5-10-28	..	..	..	..	29¾	12⅞

*Plus extra dividend of 25 cents. †Plus extra dividend of 50 cents. ‡Payable in stock. §Stocks not sold since January 1, 1930.
In comparing highs and lows for the several years in the three tables it will be necessary to take into consideration cases where there have been splits in the stock.

Paragon Refining Co. for year ended December 31, 1929, shows net profit of $365,817 after depreciation, Federal taxes, etc., against $654,672 in 1928.

Sunray Oil

Approximately 95 per cent of the stock of Homaokla Oil Co. has been acquired by Sunray Oil Corp. The latter is offering an exchange of stock for the minority interests of the former, on the basis of 1 share of Sunray for each 2½ shares of Homaokla Oil Co. The Homaokla stock must be deposited for exchange on or before April 25 at office of the Sunray corporation.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Saturday, was as follows:

Sept. 7	59.16	Dec. 18	49.24
Sept. 14	60.40	Dec. 24	47.36
Sept. 21	57.93	Dec. 31	48.86
Sept. 28	58.63	Jan. 8	48.56
Oct. 5	57.00	Jan. 15	48.38
Oct. 12	59.75	Jan. 22	47.13
Oct. 19	58.70	Jan. 29	47.46
Oct. 26	54.59	Feb. 5	48.13
Oct. 31	42.29	Feb. 12	47.49
Nov. 8	48.31	Feb. 19	45.85
Nov. 15	47.61	Feb. 26	46.71
Nov. 22	47.76	Mar. 5	46.79
Nov. 29	48.60	Mar. 14	48.30
Dec. 4	50.60	Mar. 21	51.00
Dec. 11	50.51		

Panhandle Refining

Report of Panhandle Producing & Refining Co. and subsidiaries for year ended December 31, 1929, shows net profit of $151,619 after taxes, intangible development costs, depletion, depreciation, interest, etc., equivalent to $6.61 a share on 22,932 shares of 8 per cent cumulative preferred stock outstanding at end of year. This compares with $84,280 or $3.19 a share on 26,366 preferred shares in 1928.

Shaffer Oil & Refining

Shaffer Oil & Refining Co. declared the regular quarterly dividend of $1.75 on the preferred, payable April 25, to stock of record March 31.

Venezuelan Petroleum

Report of Venezuelan Petroleum Co. (controlled by Sinclair Consolidated Oil Corp.) for year ended December 31, 1929, shows net income of $371,630 after expenses, depreciation, depletion and Federal taxes equivalent to 18 cents a share (par $5) on 2,000,000 shares outstanding at end of year. This compares with $153,734 or 7 cents a share in 1928.

Shreveport-El Dorado Pipe

Preliminary consolidated earnings of Shreveport-El Dorado Pipe Line Co. for year ended December 31, 1929, shows gross earnings of $5,991,836, against $5,696,347 in 1928. After all charges, but before depreciation and Federal income taxes, net available for interest was $446,667, against $823,005 in 1928. Earnings were issued in connection with underwriting of new issue of $1,000,000 first mortgage convertible 5-year 7 per cent bonds, proceeds of which will be used to pay off existing issues and provide additional working capital.

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended March 26 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
⅜	⅛	2,200	5/16	¼	5/16	Amer. Con. Oilfields		$11,018,000	$5	.....	.....	2 1/16	.55	1½	.53	72c	⅛
3¼	1½	500	2⅜	2¼	2¼	Amer. Maracaibo	(sh)	700,000	N.P.	.....	.....	7½	2¾	9½	3⅛	8⅝	1⅛
1⅜	1	100	1	1	1	Argo Oil	(sh)	683,971	$10	.....	.....	2¾	1	4½	2¼	5	1½
....	....	No sales.				British American§		$1,311,321	N.P.	25cQ*	1- 2-30	40	20½	55	32¾	62	7⅞
2⅛	¾	600	1⅞	1¾	1¾	Carib. Syndicate		$131,250	25c	.....	.....	28¼	15½	4½	3⅞	4⅞	1
40¾	26½	122,700	40¾	38⅝	40½	Cities Service	(sh)	24,290,359	N.P.	30cA†	1- 2-30	58¾	40¼	90⅞	54	68¼	20
93	88	300	93	92¾	93	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	1- 2-30	95⅜	87	103½	94½	98¾	84
⅜	¼	5,600	⅜	5/16	5/16	Colombia Syndicate		$2,000,000	$1	.....	.....	3⅞	1⅛	3¼	.76	2	½
....	....	No sales.				Cons. Royalty§		$5,000,000	$10	15cQ	10-25-29	9¾	6⅜	8⅞	6¼	11⅛	2½
7½	5⅝	1,200	6⅞	6⅝	6⅞	Creole Petroleum	(sh)	5,977,873	N.P.	.....	.....	14⅞	9½	17½	9½	11¾	5⅝
1	¼	300	¾	¾	¾	Crown Central	(sh)	578,000	N.P.	.....	.....	3	.50	3¼	.76	2½	¼
11	7¼	700	10	9⅝	10	Darby Petroleum	(sh)	1,019,392	N.P.	25cQ	1-15-30	12	4	33½	3¼	26	6½
5¾	4½	800	5¾	5¼	5¾	Derby Oil & Refining	(sh)	500,000	N.P.	.....	.....	2½	74	2¼	1	11	2
36	30	100	36	35	36	Derby Oil & Refining pfd.		$48,500	N.P.	.....	.....	16¾	4	21⅛	7½	44	20¾
154⅞	131¼	4,400	152¾	150¼	151¼	Gulf Oil Corp.	(sh)	4,504,921	$25	37½cQ	1- 1-30	118	86¼	165	101⅛	209	115
1¾	¾	50,000	1¾	1½	1¾	Intercontinental Pet.		$5,682,000	$5	.....	.....	2½	.80	3⅜	1	2⅞	⅜
3	1⅞	800	3	2¾	3	Kirby Petroleum	(sh)	750,000	N.P.	.....	.....	2¼	1⅛	3	1¼	3⅝	1¼
4	1⅛	1,700	3½	3⅛	3½	Leonard Oil & Dev.		$50,000,000	$25	.....	.....	10⅞	5⅛	9⅜	5⅛	6¼	1
25¼	18⅝	200	24⅞	24½	24⅞	Lion Oil & Refining	(sh)	250,000	N.P.	50cQ	1-31-30	27½	20	43⅞	20	38¾	18
44⅜	34⅛	3,800	44¾	43½	44¾	Lone Star Gas	(sh)	5,000,000	N.P.	20cQ	12-31-29	59⅜	37	69¼	48½	67¾	28
⅜	¼	500	⅜	5/16	⅜	Magdalena Syndicate	(sh)	850,000	$1	.....	.....	2⅞	.80	1⅞	.50	1¼	¼
....	....	No sales.				Margay Oils§		$160,000	N.P.	50cQ	1-10-30	52	12	48½	32	38½	14
3½	2	100	2⅞	2⅞	2⅞	Mexico-Ohio Oil		.....	....	.....	.....	12⅛	5	8	2¾	6¾	2½
¾	½	100	⅝	⅝	⅝	Mountain & Gulf		$4,000,000	$1	2cQ	1-15-30	1½	1	1⅜	.76	1½	¼
11⅜	8	700	11⅜	11	11⅜	Mountain Producers		$1,682,182	$10	40cQ	1- 2-30	29¼	22¾	28⅞	19½	22⅞	7
3¼	2½	700	3¼	3	3	New Bradford Oil		$1,095,291	$5	12½cQ	1-15-30	5⅞	4⅝	5⅝	4¼	5	2¼
7¼	3½	2,000	6¼	6	6	New Mex. & Arizona		$1,000,000	$1	.....	.....	16	9¼	11⅞	7⅛	9⅜	2¼
9½	6⅞	100	9¼	9¼	9¼	North Central Texas	(sh)	400,000	N.P.	15cQ	12- 2-29	12⅜	9½	14¼	8½	18½	6⅛
2½	1	11,200	2½	2⅛	2½	Pandem	(sh)	489,875	N.P.	.....	.....	9⅜	3¼	6	2⅛	3½	½
4⅜	1⅞	2,200	4¼	3¾	4¼	Pantapec Oil	(sh)	1,506,600	N.P.	.....	.....	12⅛	7	15⅝	8½	10¼	1⅞
....	....	No sales.				Pennok Oil§		$150,000	N.P.	.....	.....	13½	5⅛	7¾	4¾	7¾	4⅜
10	9	200	9	9	9	Red Bank Oil	(sh)	250,000	N.P.	.....	.....	24¾	7	18	4⅞	16	9⅝
3⅜	2⅛	500	2¾	2¾	2¾	Reiter-Foster	(sh)	388,584	N.P.	10cQ	12- 2-29	15½	3½	12⅞	4⅛	8½	1⅛
4⅝	3⅝	200	4¼	4	4	Ryan Consolidated	(sh)	500,000	N.P.	.....	.....	7	4½	12	4¼	11	3
2½	2	100	2½	2½	2½	Salt Creek Consolidated	(sh)	1,286,300	$10	10cQ	1- 2-30	8	5¼	7¼	5½	5⅞	1⅞
13⅞	10	500	13¾	13½	13½	Salt Creek Producers	(sh)	1,496,859	$10	50cQ	2- 1-30	35½	27¼	35	23⅛	25⅞	9
1	½	200	1	⅞	1	Savoy Oil		$750,000	$5	.....	.....	7	1¼	3½	1	2½	9/16
19½	16	600	17	16¾	17	Transcontinental pfd.		.....	....	.....	.....	..	..	..	..	..	..
4½	2¼	300	3¾	3¾	3¾	Venezuelan Petroleum	(sh)	755,090	$5	5cQ	11-15-29	7⅜	4¼	9¼	4¾	6½	1¾
4	2	600	3⅜	3	3	Woodley Petroleum		$500,000	$1	.....	.....	7	4¾	8¼	4⅞	9½	2
1⅞	1½	200	1⅜	1⅛	1⅜	Y Oil & Gas (new)		$100,000	N.P.	.....	.....	6	1¾	8⅜	2¼	2⅞	¼

*Including one-half per cent monthly in stock. †Payable monthly and a monthly stock dividend of one-half per cent. §Stocks have not sold since January 1, 1930.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended March 26 Sales	High	Low	Close	Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
17⅝	14	100	14⅞	14⅞	14⅞	Anglo-American Oil (nv)	£4,192,635	£1	.36 8/16	11-27-29	21⅝	17⅞	22⅜	14⅞	17	11
1	½	100	1	1	1	Atlantic Lobos	.....	....	.....	.....	..	..	..	..	..	..
25	23¼	100	23¼	23¼	23¼	Borne Scrymser	$1,000,000	$25	$1S.A.	10-15-29	69	50	56½	44½	46½	25
69	62	300	62	62	62	Buckeye Pipe Line	$10,000,000	$50	$1Q	12-14-29	60	45	76	53	74¼	55
166½	155	400	165	164¾	165	Chesebrough Mfg.	$3,000,000	$25	$1Q*	12-30-29	126	76½	161	117	210	130
16⅞	12⅛	900	16	15⅝	16	Continental Oil	$36,057,840	$10	.....	12-15-27	22⅝	16¼	23	16	29	10
53	41¼	100	41¼	41¼	41¼	Cumberland Pipe Line	$1,500,000	$50	$1Q	12-15-29	137	80	114	67	75¾	40
54¾	45	200	45	45	45	Eureka Pipe Line	$5,000,000	$100	$1Q	11- 1-29	68½	47	88	64⅛	70½	42
3¾	2½	100	3	3	3	Galena Signal Oil, ctfs. of dep.	$16,000,000	$100	.....	.....	13½	3½	13	4¼	6½	3
113¼	78	5,000	116¼	113¼	115⅛	Humble Oil & Refining	$74,103,300	$25	50cQ	1- 1-30	68½	54	114¾	59¼	128	74⅞
307	304	100	304	304	304	Illinois Pipe Line	$20,000,000	$100	$10S.A.	12-16-29	182	123¾	290½	176½	340½	260
28	22⅛	4,700	27⅞	27¼	27⅝	Imperial Oil Co., Ltd.	26,421,768	N.P.	12½cQ	12- 2-29	64¾	37¾	104	56¾	41	22
41	37⅞	200	38	37⅞	38	Indiana Pipe Line	$3,000,000	$10	50cQ‡	2-15-30	94½	61	91⅞	74⅜	41¾	26
23	17⅞	4,000	23	22½	22⅝	International Pet.	14,247,088	N.P.	12½cQ	12-16-29	29	28¼	55	35	30⅜	15
22⅜	19⅞	100	20⅝	20⅝	20⅝	National Transit	$6,362,500	$12.50	25cQ‡	12-16-29	24	13½	32⅜	19⅜	25⅛	10½
18¼	16	100	16	16	16	New York Transit	$1,000,000	$10	40cQ†	1-15-30	44½	31¼	75	38½	17½	10
....	....	No sales.				Northern Pipe Line§	$2,000,000	$50	$28.A.	1- 2-30	100	70	69	56½	63	41
72⅞	66⅛	100	72⅞	72⅞	72⅞	Ohio Oil	$60,000,000	$25	50cQ‡	12-14-29	67⅞	52	84	58½	79¾	64⅛
22½	20	200	20½	20⅛	20¼	Penn Mex. Fuel	$10,000,000	$25	50cQ	12-14-29	39	12	84	28	44½	20
33	24⅜	500	29⅝	26	29⅝	Solar Refining	$4,000,000	$25	$1.25S.A.	12-20-29	..	..	..	..	50	29
16⅜	13	200	15	14½	15	Southern Pipe Line	$1,000,000	$10	50cQ	.....	27¼	15½	19	15	22½	13
45⅞	37½	1,500	45	44¾	45	South Penn Oil (new)	$30,000,000	$25	50cQ	12-30-29	41½	35	71⅞	36¾	60¼	35⅛
64	50⅛	100	50⅛	50⅛	50⅛	Southwest Pa. Pipe Lines	$1,750,000	$50	$1Q	10- 1-29	83	55½	102	70	70	60
57½	49⅞	9,000	57½	57	57⅛	Standard Oil of Indiana	$348,175,069	$25	62½cQ‡	12-16-29	81½	64⅝	95⅞	70⅞	63	45
40	27⅛	27,400	40	38⅝	39¼	Standard Oil of Kansas	$8,000,000	$25	50cQ	12-16-29	20⅞	14⅝	37¾	15	33¾	18
37⅛	33¼	2,300	36⅝	36¼	36¼	Standard Oil of Kentucky	$25,654,516	$10	40cQ	12-16-29	130	111½	179¾	122¼	46¾	29
48⅞	44⅛	200	48⅜	48⅜	48⅜	Standard Oil of Nebraska	$4,649,225	$25	62½cQ‡	12-20-29	49½	40	54⅞	39⅞	50¼	40
108½	81	650	104	102	104	Standard Oil of Ohio	$14,000,000	$25	62½cQ	1- 2-30	87½	72	134	71	129	60
....	....	No sales.				Swan-Finch Co.§	$861,466	$25	.....	12- 2-29	21	14½	23½	16	18	10
96⅞	88⅛	900	93¾	93	93⅝	Vacuum Oil Co.	$126,180,350	$25	$1Q	12-20-29	..	..	111	72	133¾	75

*Plus 50 cents extra. †Plus 10 cents extra. ‡Plus 25 cents extra. §Stocks not sold since January 1, 1930.

ROCKY MOUNTAIN AREA

(Continued from Page 62)

The plans are to case off the water and make a test. Their No. 1 Bouton, NW NE, Section 14-14-10, is bottomed at 763 feet on top of a sand. The 10-inch will be landed before drilling deeper.

Luna County

The Angelus Oil & Mining Co.'s No. 3 State, NW SE, Section 20-21-10w, near Deming, is reported drilling at 5,025 feet in lime and shale of Pennsylvanian age.

Torrance County

J. B. Witt Oil & Gas Co.'s No. 1 Kutchin, Section 12-7n-7e, is reported bottomed at 241 feet and having trouble making a water shutoff.

UTAH

The Midwest Refining Co.'s No. 31 Pary, SW cor. SE, Section 14-39s-1w, in Kane County, Utah, for the account of the Utah Oil Refining Co., is drilling at 2,675 feet in lime shell with the 10¾-inch at 2,636 feet. It is about at the depth at which the Shinarump conglomerate, the first objective, was expected. The Cisco Springs Syndicate's No. 1 Moss, SE SW, Section 9-20-23, Grand County, has resumed at 1,985 feet and is sidetracking tools which have delayed drilling into the Dakota. The Utah Southern Oil Co.'s No. 1 State, NE NW SE, Section 26-21-23, Cisco district, is drilling at 960 feet in the McElmo shale, and the Florence Syndicate's No. 1 McCarthy, SW cor., Section 27-21-19, Crescent district, is drilling at 2,200 feet and feeling for the Dakota. The Virgin Dome Oil Co.'s No. 1, NW NW, Section 16-42-14, Harrisburg Dome, Washington County, is resuming at 1,325 feet after reorganization.

COLORADO

Colorado had a disappointment to report this week in the failure of Thomas McLaughin and others' No. 1 Williams, SW NW SW, Section 2-3n-92, in the Iles area in Moffat County, which suspended drilling at 4,515 feet and is being plugged to abandon. This well was started in the fall of 1928 as a joint operation by McLaughlin, the Morapas Oil Corp., the Shaffer Oil & Refining Co. and the Joe Miller Drilling Co. to test a fault block between the Iles and Thornburg Domes. It topped the Sundance at 4,300 feet and stopped 53 feet into the White Cliff formation. Water stood within 800 feet of the top of the hole. Some shows of oil and gas were encountered, but none was important. One other test was drilled to test this fault block, the Continental Oil Co.'s No. 1 Taylor, NE NE, Section 34-4n-92, which was put down to 3,715 feet in 1927. It cut the Frontier at 3,172-3,225 feet and had several million feet of gas in sand at 3,489-92 feet, but found water in a sand at 3,715 feet. This test did not reach the Sundance as the latter at that time had not been proven productive on the Iles Dome. It was believed the Continental well was too near the fault and drilled through it and found the gas on the north side.

Moffat County

The Midwest Refining Co.'s No. 19-SD Parkinson, SW NE, Section 22-4n-92, the only drilling well on the Iles Dome, is bottomed at 2,860 feet in black shale and underreaming the 10¾-inch at 2,711 feet. The hole is bottomed on top of the Dakota. The Midwest's No. 24 Hannewalt, SE SE, Section 4-6n-92, Bell Rock Dome, is drilling at 1,815 feet in brown shale. The Texas Production Co.'s No. 1 Berlin, SW NE, Section 19-12n-100, Bartram Dome, is bottomed at 2,337 feet corrected total depth, and has a fishing job on hand. The 6¼-inch string parted three joints off bottom. The Mountain Fuel Supply Co.'s No. 1 Lasher, NE NE, Section 25-12-101, is drilling at 2,050 feet. This well is a mile southwest of The Texas Company's well which had an aggregate production of 72,000,000 feet of gas from four horizons at 2,337 feet.

Park County

The South Park Oil Co., a new concern in which R. W. Kramer, Frank M. Davis and J. E. Marmaduke are the principal interests, has announced its intentions of drilling a test on the Jefferson structure in Park County, near the central part of the State. There are three large basins in the mountains of central Colorado known as North Park, Middle Park and South Park. North Park, in Jackson County, near the Wyoming line, is where the Continental Oil Co. brought in its freak wells making carbon dioxide gas at a temperature of 110° below zero, along with frozen oil of high gravity. Middle Park, which is in Grand County, has had very little drilling for oil and South Park had a few tests many years ago, but these were not conclusive. These parks are surrounded by high mountain ranges. The discovery in North Park attracted attention to the other basins and considerable geological work was done by some of the major companies, but no testing resulted. William T. O'Bryan did the geological work for the South Park Oil Co. He puts the structure in Townships 7 and 8 south, Ranges 75 and 76 west, near Fairplay. Fairplay has an altitude of 9,964 feet and a test there might establish a record for altitude above sea level for an oil well. O'Bryan puts the Dakota at approximately 1,864 feet. He is in the field making the location and drilling is expected to start within the next few weeks. The company is getting ready to put on a financing campaign.

La Plata County

An Associated Press dispatch reports a gas strike in La Plata County, estimated at 5,000,000 feet a day, but local scouts have received no confirmation and details are not available. The well is supposed to be that of the McGarr Petroleum Corp. in the SE SE, Section 27-33-12, on the Red Mesa Terrace. This well was started in June, 1928, by the Royal Producers & Royalty Co., and was drilled to 650 feet where it remained idle for a long time. About a year ago the McGarr company was reported to have taken it over and recently to have resumed drilling and reached a depth of 1,000 feet. Dr. J. W. Hannett of Albuquerque, Paul Henderson, W. H. Morris and Sharp Hanson of Gallup are mentioned as being interested. The well is located between two dry holes drilled several years ago which had some unimportant shows of gas in upper horizons and on the same structure where the Ohio Oil Co. drilled in a 5-bbl. well that was too deep to be commercial.

Rio Blanco County

The Texas Production Co.'s No. 1 Potter, NE SW, Section 30-2n-96, White River Dome, has recovered the 2½-inch drill pipe lost at a total depth of 5,888 feet, and is preparing to resume drilling. It was reported to have had a show of gas at this depth, but no test was made on account of the drill pipe being in the hole. The White Eagle Oil & Refining Co.'s No. 1-A Fordham, NW SW, Section 9-2s-96, Piceance Creek, is making hole at 3,170 feet after cementing the 8¼-inch at 3,028 feet where it was making considerable wet gas.

Mesa County

The Argo Oil Co.'s No. 1 Peerless, NE cor., Section 23-8s-104, High Line structure, cemented the 8¼-inch at 2,710 feet, but the cement failed to hold, believed due to its agitation by gas, and it has been decided to drill on into the Dakota before running the 6¼-inch.

Huerfano County

The Parker Club, Inc.'s No. 1 Fee, Section 4-28s-68, is bottomed at 4,115 feet and tied up with a parted string of 5⅜-inch casing. It is approximately in the top of the Lakota.

Fremont County

Donnelly Brothers' No. 1 Cafky, SE cor., Section 16-20-69, in the south extension of the Florence Pool, was dry and abandoned at 2,580 feet.

Larimer County

The Warner-Mosher Drilling Co.'s No. 1 Reed, SW NW, Section 28-4n-69, Berthoud Dome, is cleaning up a fishing job that has delayed operations for the past six weeks. Total depth is 3,100 feet. The Continental Oil Co.'s No. 5 Scott, NE NW, Section 6-9n-68, Wellington Dome, is drilling at 3,451 feet.

Morgan County

The Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE, Section 16-1n-57, Fort Morgan anticline, a test which is considered one of the most important drilled in the State for a number of years, commenced spudding on March 19 and shut down to complete rigging. It started in a 20-inch hole with cable tools and will go at least 5,000 feet and possibly 7,000 feet. It is a joint operation with the Osage Development Co.

Adams County

Nettie M. Slatt's No. 1 Hills, SE cor., Section 27-3s-64, is drilling at 1,200 feet and making slow progress.

Yuma County

The Phillips Petroleum Co.'s No. 1 Andrews, NW NW, Section 3-2s-42, near the Kansas line, is reported to have a bad fishing job on hand at a total depth of 5,055 feet. The tools are in the hole with a fishing string on top of them and a 50-foot cave on top of the fishing tools.

Bent County

The Continental Oil Co.'s No. 1 Pipe Springs, NE SE, Section 27-27-49, is drilling at 5,688 feet in gray lime.

WYOMING

The deep test in the Salt Creek Field being drilled by the Midwest Refining Co. in its No. 29-DT, NW, Section 35-40-79, on Wyoming Associated lease, continues to be foremost in the news from Wyoming. This well is through the Tensleep formation of Pennsylvanian age and well into the Amsden on its way down to the Madison and, if possible, to the Deadwood. It is drilling at 4,125 feet, approximately 125 feet in the Amsden, the latter being topped at around 4,000 feet. The Tensleep contained more than 200 feet of saturated formation, showing no water until nearing the bottom when some water, though not in appreciable quantity, made its appearance. The well flowed as high as 1,850 bbls. of oil per day. No oil was found in the Amsden, but after passing out of the Tensleep the quantity of water increased to 50 per cent. The hole is in good shape to continue drilling. The 10¾-inch was cemented in the Chugwater just above the top of the Tensleep and it is hoped the hole is sufficiently large to go on through the Madison and the Deadwood. The Madison is estimated to be between 500 and 700 feet thick and the Deadwood around 1,000 feet thick. The Madison is the formation which yielded a well for the Midwest on the Frannie Dome in Park County that made better than 2,400 bbls. per day. It is significant that the big production in the Madison lime at Frannie was encountered after water had been found in both the Tensleep and Amsden, while in the Salt Creek test the Tensleep had more than 200 feet of oil-producing formations. The Deadwood has been tested in only two places in Wyoming and its possibilities are unknown, but it is known it contains sands which are suitable for the accumulation of oil. This sand is the equivalent of the Keener sand in the Pennsylvanian fields.

Natrona County

In Natrona County, outside of Salt Creek proper, but around the edge of that structure and Teapot Dome, there is considerable activity, mostly confined to wells drilled for shale production. The Wyalta Oil Co.'s No. 2 Smith, Section 11-38-78, east of Teapot, is bottomed at 1,045 feet and straightreaming to lower the 6⅝-inch to the top of the Shannon sand which is showing some oil, but will be drilled deeper before being completed. Mosher Oil, Inc., is moving in for its No. 1 Murane, SW, Section 3-39-79, for a shale well in the area to the southwest of Salt Creek. The Wind River Oil & Gas Co.'s No. 1 De Long, NE SE, Section 9-38-78, west of Teapot, is drilling at 2,400 feet. Mosher & Falk's No. 2, NE, Section 4-39-79, was completed in the shale at 2,200 feet and is making 5 bbls. per day.

Carbon County

The Producers & Refiners Corp.'s No. 2, SE NW, Section 34-26-88, Mahoney Dome, the deep test which showed production in the Tensleep, a joint operation with the Midwest Refining Co., was given a second test of production at a total depth of 4,683 feet, 83 feet in the Tensleep. This test indicated the well is good for about 75 bbls. a day as it stands. The formation is hard and tight and officials of the two companies are consulting as to whether the well shall be shot and given additional testing at this depth, or whether drilling deeper into the Tensleep shall go ahead. This formation is more than 200 feet thick in other parts of Wyoming. The oil is of mixed base and better than 33 gravity. The failure of the well to respond with a production as large as the 4,000 feet of oil in the hole indicated does not lessen the importance of the discovery as the horizon is proven and wells at other locations may find the formation softer. The Midwest Refining Co.'s No. 31, SW cor. SE, Section 1-18-78, Dutton Creek, is resuming after being shut down on account of cold weather, and is drilling at 3,185 feet in hard, gray, sandy shale.

Sweetwater County

The Mountain Fuel Supply Co.'s No. 1 Union Pacific, Section 11-17-104, South Baxter Basin, has been completed in the Dakota as a gas well at a total depth of 2,454 feet with an initial production of 8,000,000 feet a day. It was drilled deeper with the intentions of going to the Sundance, but it was decided to go back and complete it as a gasser in the Dakota. The same company's No. 1 Sullivan, SW SW, Section 10-16-104, is drilling at 3,410 feet. Total depth is 3,430 feet. The Prairie Oil & Gas Co.'s No. 75-A, Section 11-26-90, Little Lost Soldier, which cased off production in the Sundance to make a deep test to the Tensleep, is drilling at 2,380 feet with cable tools. The Tensleep is expected at around 3,400 feet.

Sublet County

The Piney-La Barge Oil Co.'s No. 1, Section 12-28-114, in the Dry Piney Field, is reported making around 30 bbls. per day of high gravity oil from sand at 950 feet. No sustained production test has been made. This well is 12 miles north of the La Barge Field and close to a well drilled by the Lincoln-Idaho Co. 10 years ago which produced 25 bbls. per day of 56 gravity crude. The elevation of the Piney-La Barge well is approximately 8,600 feet, said to be the highest of any well in the country. Charles Lackey, a pioneer in drilling that area, was in charge of the well. An effort will be made to have the La Barge pipe line extended to the field to take the oil.

Uinta County

The California's Co.'s No. 1 Union Pacific, NE NW, Section 7-17-116, Muddy Creek Dome, is drilling at 4,633 feet.

Fremont County

The Producers & Refiners Corp.'s No. 10, Section 14-32-95, Sand Draw Field, which will be drilled in another attempt to get through the big gas sands in the Frontier, is spudding at 115 feet. The Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, Pilot Butte, is drilling at 3,565 feet in black shale containing considerable sand, indicating that the hole is nearing the Dakota. The 6¼-inch is being carried and the big gas flow in the Muddy has been mudded off. The Texas Production Co.'s No. 1-A State, SW SW, Section 36-34-95, Alkali Butte, is drilling at 3,030 feet after cementing the 10¾-inch at 3,010 feet.

Park County

The Ohio Oil Co.'s No. 1 Burlington, SE SW, Section 21-53-101, on the Shoshone Dome near Cody, the second well to be drilled on this structure by the Ohio company, was completed at 4,540 feet and is pumping 70 bbls. per day from the Embar. It is three-fourths of a mile to the west and a little north of the discovery and is the best well of the two. The Lenco Petroleum Co.'s No. 1 Pulley, C NW SE, Section 20-53-101, which has been standing at 2,140 feet for more than a year, may be deepened to the Embar following the completion of the Ohio's well. The Midwest Refining Co.'s No. 31 Frannie Oil, SW cor. NE, Section 25-58-98, Frannie Dome, is fishing for tools at 1,635 feet, and its No. 31 Rosenberg, SW cor. NE, Section 34-58-98, is drilling in a water sand at 280 feet. In the Oregon Basin Field, Charles E. Orchard's No. 1 Owens, SE cor., Section 29-52-100, is drilling into the Embar at below 3,260 feet, where the casing was cemented. The Texas Production Co.'s No. 2 Sonners, SE SW, Section 20-51-100, has completed rig and is ready to spud. The Y-Tex Oil Co.'s

No. 1, SE SW, Section 16-51-100, is shut down waiting for casing, and the Oneida Oil Co.'s No. 1 Beck, SW cor., Section 28-52-100, is drilling out cement at 2,250 feet. The Wyoming-Western Oil Co.'s No. 3 Hough, SE cor., Section 18-51-100, is drilling at 4,715 feet, and the Cody Petroleum Co.'s No. 1-B Klindt, NE SW, Section 6-51-100, is drilling at 2,305 feet. The Lenco Petroleum Co.'s No. 2 Roussea, SE NW, Section 33-51-100, is drilling at 1,870 feet.

Big Horn County

The Ohio Oil Co.'s No. 1 Union Gas, NE cor., Section 22-56-97, Byron Dome, is drilling at 4,974 feet.

Hot Springs County

The Ohio Oil Co.'s No. 1 Smith, SE cor. NE, Section 9-46-99, Walker Dome, is drilling at 3,810 feet. It had 3,000,000 feet of gas per day in the second Frontier and is feeling for the Dakota.

Weston County

The Osage Field in Weston County, in northeastern Wyoming, which has been producing steadily for 10 years from a number of shallow wells, but which has not been much in the public eye following the withdrawal of the major companies, is again attracting attention. The Osage Trust Co.'s well on the NE SE, Section 14-46-64, which came in recently at 1,612 feet and averaged around 400 bbls. natural for the past 30 days, has served to renew interest in the operation. It was deepened 5 feet the past week, but the production showed no material increase. The Illinois Pipe Line Co. is erecting a new pumping station to handle the additional production from Sections 13 and 14-46-64, where the increased activity is taking place. The Wyomont Producing and Refining Co.'s No. 1 State, NE SE, Section 10-46-64, is drilling at 1,650 feet. Hugh Updike & Sons are rigging up on the NW NE, Section 14-46-64, and are spudding in on the NW NE, Section 13-46-64. The Merrill Syndicate's No. 1, Section 2-46-64, is spudding and the La Fleiche Oil Co.'s well on Section 17-46-63 is spudding. The Rhinehart Oil Co. is drilling at 600 feet on Section 7-46-63 and the Kelso Oil Co. is drilling at 300 feet in Section 8-46-63. The Osage-Wyoming Oil Co.'s wildcat on Section 30-46-64, Fiddler Creek Dome, is drilling at 1,050 feet.

IDAHO

Another gas blowout occurred in the Idaho-Oregon Petroleum Co.'s No. 2, NW SE, Section 33-9n-5w, on the Idaho Canning Co. property near the town of Payette, Payette County, Idaho, on March 23, and reports from that State are to the effect that the well gives indications of being an important discovery. About three weeks ago the drill went through an 8-foot hard limestone caprock and picked up the gas at 1,270 feet. The hole was full of water at the time and the pressure blew the water and sand high into the air above the crown block. The well blew for about 15 minutes when it bridged 600 feet off bottom. Operations were suspended until a sand pump could be obtained when cleaning out began. The hole was cleaned to bottom and had 650 feet of water standing in it when the bailer was lowered. The bailer just touched bottom when the gas again came in with a roar, throwing water, sand and slate 140 feet into the air for about three hours when the hole again bridged 80 feet off bottom. H. B. Sheppard of Idaho Falls, giving A. V. Patch, president of the Idaho-Oregon company as his authority, says the gas was accompanied by a pronounced petroleum odor and that rainbows showed on the water. He described the location of the well as being near the town of Payette, about a mile from the Snake River, which forms the boundary line between Idaho and Oregon, and in a low swampy depression. The trains on the Oregon Short Line, a part of the Union Pacific system, were held up on the day of the second blowout due to the large crowds of people which swarmed along the railroad tracks near the well. After the hole bridged and the gas shut off, it was found the ground around the well was banked with two feet of fine sand. Colonel Patch, president of the company, R. L. Hawkins, superintendent of operations, and C. Francis Miller, a geologist retained by the company, are quoted as being quite sanguine as to the prospects for encountering both oil and gas. The International Finance Corp. of Seattle, Wash., which financed the operation, is making preparations to test the well. Several years ago a well drilled in the immediate vicinity had considerable gas at 1,400 feet which was reported to have shown about a gallon of gasoline to the 1,000 feet. The sand in which No. 2 found the gas is believed to be the same as a sand found 130 feet above the gas in No. 1 well. The horizon is supposed to be a formation of Tertiary age.

SOUTH DAKOTA

The Black Hills Petroleum Co.'s No. 1 Rockford, SE NE SE, Section 28-6s-2e, Custer County, South Dakota, near the well brought in by this company two months ago as the first commercial producer in the State, is rigging up. This is one of three wells to be drilled on locations made by C. T. Lupton to feel out the boundaries of the producing area. The Pacific-American Oil Co., jointly with the Rapid City Drilling Syndicate, are moving in for a test on Section 21-7s-5e, Country Club structure, Fall River County. Location was spotted by H. Norman Snively. The Amsden is expected at 500 to 600 feet and the Madison lime at less than 1,000 feet. The Dillon Oil Co.'s No. 1, NE, Section 24-10s-1e, Provo Dome, has cleaned out to bottom at 1,226 feet where the casing was set on top of the Lakota, and is preparing to resume drilling. The Cosden Oil Co.'s No. 1 Weedman, NW, Section 9-11n-19, Ziebach County, is preparing to resume at below 3,000 feet to continue to the Minnelusa.

Rocky Mountain Production

Daily average pipe line runs from the various pools in the Rocky Mountain area for the week ending March 29:

WYOMING	
Salt Creek	30,300
Frannie	400
Big Muddy	2,060
Oregon Basin	4,800
Dutton	....
Elk Basin	790
Ferris	20
Grass Creek	2,010
Hamilton	720
LaBarge	1,900
Lance Creek	170
Lost Soldier	2,950
Osage	970
Poison Spider	1,050
Rock River	2,200
Rex Lake	....
Lander	400
Simpson Ridge	....
Teapot Dome	40
Greybull	....
Total	50,780
MONTANA	
Cat Creek	1,200
Kevin-Sunburst	5,950
Pondera	2,050
Lake Basin	70
Total	9,270
COLORADO	
Moffat	1,119
Fort Collins	1,395
Florence	638
Iles	1,049
Tow Creek	467
Boulder	25
Rangley	50
Total	4,743
NEW MEXICO	
Hogback	450
Rattlesnake	801
Table Mesa	111
Artesia	695
Cap Rock (Maljamar)	934
Jal	1,536
Hobbs High	180
Getty	....
Lea	6,027
Miscellaneous (Lea County)	966
Total	11,700
Grand total	76,493
Grand total March 22	74,598
Difference	1,895

MONTANA

In the Sunburst Field in Toole County, the deep well being drilled by the Texas Pacific Oil & Gas Co. was reported as having found a gas flow at 3,100 feet. The gas ceased to flow about two days after the bit opened the pocket and the well is again drilling. It is concluded that the flow was merely a gas pocket and not of commercial value. This well is in Section 36-35-2 and is to be drilled to a depth of 4,000 feet to test all horizons.

The California Oil Co. drilled its No. 3 on the Shoemaker lease to the Ellis sand on Section 2-34-2 and has a well good for 200 bbls. The Campbell Development Co. drilled its No. C-2 to the Ellis sand on Section 2-34-2 and has a 75-bbl. producer.

The Cosmos well No. 1 in the Border Field, on the boundary, is showing for a better well than at first reported. The hole was cleaned out and considerable cave found. On being cleaned out the well started off at 1,500 bbls. and some estimates set it at 2,000 bbls. In the same field the Monalta's No. 1 Buckley in Section 1-37-4 is drilling in the Sunburst sand and will make a well from present indications. It has about 1,500 feet of oil in the hole.

DRILLING CONDITIONS IN KETTLEMAN HILLS FIELD

(Continued from Page 39)

"Bentonite" marker serves as a basis for shut-off point determinations.

Many different types of bits and a variety of hard-facing materials are used in drilling the hard abrasive formations. Progress in these hard formations is slow, ordinarily running around 10 to 50 feet per day. Straight hole drilling practices are observed, with good results.

Casing Programs

Combinations of casing sizes in Kettleman Hills must be such that ample clearance compensates for the fact that underreaming is not generally practiced on account of the large amounts of hard abrasive formation involved.

Under the present program a surface conductor is cemented around 1,000 to 1,500 feet to case off the formations giving most loss of circulation trouble. This string is either 20 inches, outside diameter, 104-pound casing, or 18⅝-inch, outside diameter, 96.5 pounds, or 87.5-pound casing. After the surface conductor has been cemented in the usual manner, the remaining space between the casing and the hole is filled to the surface with cement pumped in through small tubing.

A second conductor string is set at about 5,000 feet. From a drilling standpoint it is decidedly advantageous to place this string in the top of the brown shale, in order to separate the flowing water below from the cavey shales above. In wells having a 20-inch conductor, the second string is 13⅜-inch outside diameter, 83.5-pound, 72.5-pound or 68-pound; in other wells 11¾-inch outside diameter, 60-pound casing is used.

The second conductor is usually cemented with 2,000 sacks of cement. By using two cement outfits compounded with the pumps at the well only two hours total time is required to mix and pump this amount of cement into place.

The water string is set just above the producing zone, the depth varying from 6,000 to 6,900 feet, depending on the structural position of the well. In wells having a 13⅜-inch conductor, the water string is 9⅝-inch outside diameter, 53.6 or 47.2-pound; or 9-inch 54-pound, or 45-pound casing; in wells having an 11¾-inch conductor it is 8⅝-inch outside diameter 44.85 or 36-pound casing. The water string is cemented with more than sufficient cement to extend up to the shoe of the conductor string, and cementing operations are concluded by applying pressure between strings in an effort to seal off the flowing water.

If any oil string is used, it is set about 900 to 950 feet into the producing zone, and is usually cemented through perforations just below the water string shoe in order to confine the producing pressure to the smaller size casing. In wells having 9⅝-inch water strings the oil string is 6⅝-inch outside diameter; in wells having 9 or 8⅝-inch water strings the oil string is 5¾-inch outside diameter.

Suspension of Drilling

In accordance with principles of oil conservation and prevention of gas wastage the operators have agreed to suspend drilling at most of the wells, after cementing the water strings, and penetrating the producing zone for various distances. In one method of suspending operations at a well, a cement bridge is placed at the shoe of the water string, tubing is run in, to permit circulating mud, and heavy surface connections are installed, as blowout prevention measures.

Producing Conditions

The control of wells producing 60° A.P.I. gravity crude oil, accompanied by a large volume of gas, under high pressure, and the handling of the product, are problems of paramount importance in the Kettleman Hills Field, the necessity of perfect materials and joints being emphasized by the character of the oil to be controlled.

On the four present producing wells in this field, surface pressures range

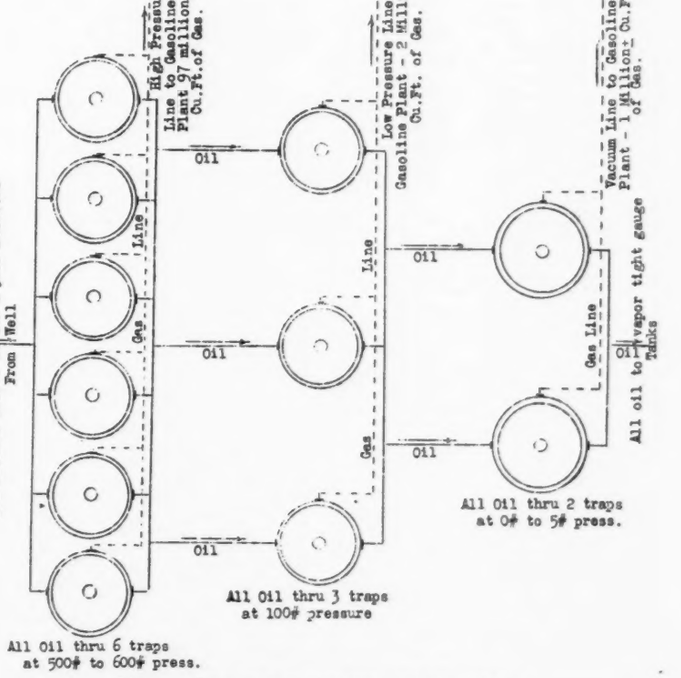

100 Million Cu.Ft. of Gas & 3800 Bbls.Oil From Well
High Pressure Line to Gasoline Plant 97 million+ Cu.Ft. of Gas.
Low Pressure Line to Gasoline Plant - 2 Million+ Cu.Ft. of Gas.
Vacuum Line to Gasoline Plant - 1 Million+ Cu.Ft. of Gas.
Oil
Gas
Line
Gas Line
All oil to vapor tight gauge Tanks
All Oil thru 6 traps at 500# to 600# press.
All Oil thru 3 traps at 100# pressure
All Oil thru 2 traps at 0# to 5# press.

Figure 3—Flow chart of three-stage gas trap setting.

from 500 to 1,300 pounds per square inch gauge. Production of these wells ranges from 1,300 to 5,000 bbls. of oil, and from 27,000,000 to 136,000,000 feet of gas daily per well.

Not one of the producing wells has ever been completely closed in; so the shut-in pressure of the field has never been registered. On one occasion a pressure of 2,350 pounds was observed on the casing head of one of the wells while it was producing. Computations based on the weight and height of the mud column just prior to the bringing in of two wells indicate a probable formation pressure closely checking the hydrostatic head at the producing depth. This means pressures approximating 3,000 pounds per square inch.

Completion of Wells

One of the producing wells is completed with a 5¾-inch oil string which is cemented through perforations below the water string in order to confine the pressure to the smaller sized pipe and fittings. The other three producing wells have no oil strings, the hard formations and high pressure permitting the wells to produce from 800 to 900 feet of open hole. Of these three latter wells, one is equipped with a 5¾-inch flow string hanging about 500 feet above shoe of the water string.

In attempting to complete the wells so that the high pressure can be controlled, casinghead connections and surface fittings of the best available construction have been installed; all well fittings and christmas tree assemblies have been shop-tested to at least 3,000 pounds per square inch pressure.

In spite of heavy surface connections, however, the pressure at one of the wells was sufficient to cause failure of these fittings, with the result that the well flowed out of control for a considerable time, wasting large quantities of oil and gas. This unfortunate failure of equipment occurred when the well pressure was exerted against 8⅝-inch diameter fittings. This fact raises the question whether the control of the pressure on any of the wells should be entirely trusted to manipulation of flow nipples on the surface equipment, where the pressure of the well affects fittings which have diameters of 8⅝-inch or larger.

By means of properly designed flow strings it is possible to take advantage of the pressure loss due to the friction of flow in the smaller diameters of casing, and avoid the relatively high surface pressures. A surface pressure in excess of 1,200 pounds, as occurring on some of the wells is not a desirable condition, for obvious reasons.

To illustrate the effect of different sizes of flow strings upon surface pressure, the following example has been calculated according to formulae as printed in United States Bureau of Mines Report of Investigations, Serial No. 2,929. The figures are entirely hypothetical but are based on conditions in Kettleman Hills.

Data—	Well "A"	Well "B"
Daily gas production	135,000,000 cu. ft.	92,000,000 cu. ft.
Daily oil production	4,500 bbls.	3,500 bbls.
Specific gravity of wet gas	.7	.7
Flow strings, size	8⅝", 44.85 lbs.	5¾", 22.5 lbs.
Flow string, I.D.	7.625"	5"
Surface pressure	1,250 lbs. gauge	600 lbs. gauge
Depth to mean point of producing zone exposed	6,600 ft.	6,600 ft.

Results of Computations

	Well "A" (lbs.)	Well "B" (lbs)
Pressure loss due to friction of flow	249	1,238
Pressure loss due to weight of column	240	238
Casinghead or surface pressure	*1,265	*615
Pressure at sand surface	1,754	2,091

*Absolute.

Although the formulae used were prepared for conditions not so extreme as found at Kettleman Hills, however, they are basic in principle, and errors due to necessary assumptions should be the same for both wells so that the above results are excellent for comparison purposes.

The above example shows that although the pressure at the sand face in Well "B" is considerably greater than in Well "A", the surface pressure in Well "B" has been reduced to less than half of that at Well "A" simply by the use of a 5¾-inch instead of an 8⅝-inch flow string.

These results emphasize the fact that with properly designed oil strings excessive casinghead pressures can be avoided. Lower surface pressures exerted against smaller diameter fittings should minimize the possibility of blowouts.

Handling the Production

The first step in handling the production is the separation of the oil and gas. To do this, some elaborate trap settings have been installed, in which the oil passes through two or three pressure reduction stages, gas being taken off at each stage. Typical functioning of a three-stage trap setting is illustrated by the following example:

Six traps operating at 550 pounds pressure receive from the well about 100,000,000 feet of gas and 3,800 bbls. of oil daily. About 97,000,000 feet of gas is separated out in these six traps. All the oil goes through three more traps operating at 100 pounds pressure when an additional 2,000,000 feet of gas is separated. All the oil next goes through two more traps, operating at about atmospheric pressure, thence to vapor-tight gauge tanks, the remaining 1,000,000 feet of gas being removed by both the low pressure traps and vapor-tight gauge tanks.

Gas from the traps goes to gasoline plants where nearly 1 gallon of gasoline per 1,000 feet of gas is recovered. Amounts of gas produced are so large that one well alone taxes the capacity of a large gasoline plant.

Although the subsequent handling of the oil, gas and gasoline is of considerable interest, this subject does not fall within the scope of this paper.

Conclusion

The outstanding features of operations in the Kettleman Hills oil field are:

First, the difficulties involved in properly completing a well, and the drilling technique that has been evolved in attempts to overcome those difficulties, and

Second, the production of large amounts of gas and high gravity crude oil under conditions involving control of unusually high pressures.

As the entire thickness of the producing zone in the Kettleman Hills Field has not yet been penetrated, it is conceivable that future development of this field will involve completion of wells at depths considerably exceeding the world record depths of today. Problems attending such completions, and problems concerned with the control of the higher pressures to be expected at the greater depths will be exceedingly interesting.

SHREVEPORT SAFETY CHAPTER

SHREVEPORT, La., Mar. 29.—Increasing attention given to safety work in all branches of the oil industry in the Shreveport division resulted this week in a meeting of representatives of 60 or more companies operating in North Louisiana and Arkansas and preliminary organization of the Shreveport chapter of the National Petroleum Safety Council. This preliminary conference, to be followed by permanent organization with election of officers at another meeting the first week in April, was held under the auspices of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association, T. J. O'Sullivan, assistant secretary, being charged with the business. A. S. Carruthers, superintendent for the Atlantic Oil Producing Co., was delegated to organize a similar chapter at El Dorado, Ark., and a third chapter is to be organized in the Louisiana coastal fields.

GOVERNMENT DATA SHOW GASOLINES MUCH MORE VOLATILE THAN IN 1929

By E. C. Lane, E. L. Garton and O. C. Blade
United States Bureau of Mines

This report presents the results of the Bureau of Mines' twenty-first semiannual survey of motor gasoline marketed in the United States. The 12 cities in which samples were collected have been chosen as representative of the more important marketing territories, as it is obviously impractical to obtain a sample of every gasoline sold in the entire country.

The survey reveals that the motor gasoline which is being marketed in the United States this winter is decidedly more volatile than that sold a year ago. Samples from all cities show a decided improvement in volatility except those from Laramie, Wyo., which show a small decrease in volatility.

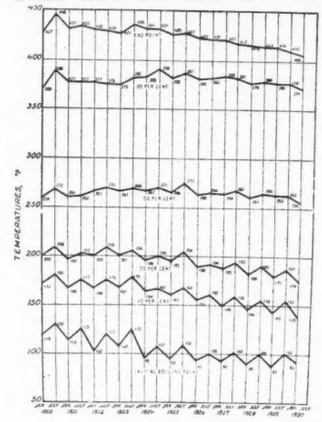


Figure 1—Ranges of average distillation temperatures.

As in the past, distillations evidence a distinct difference between "winter" and "summer" gasoline, in that gasoline marketed in the winter is more volatile than that marketed in the summer. The difference is large over practically the whoe distillation range.

The results of the 21 surveys are summarized in Tables 1 and 2; the "winter" surveys are given in Table 1 and the "summer" surveys in Table 2. Table 3 presents the average results of the survey for each individual district.

The closer fractionation of gasolines sold in recent years is shown in Tables 1 and 2 and graphically in Figure 1. For example, in January, 1920, the spread between the average 90 per cent point and the average endpoint was 58° F.; in January, 1925, the spread was 43° F.; and in January, 1930, it was 35° F. The lowering of the average endpoint and the average 90 per cent point beginning with January, 1924, and the narrowing of the gap between these figures is especially significant in showing the beneficial effect of the better fractionating equipment now used by American refiners. The appearance of this effect is almost coincident with the beginning of the widespread installation of bubble towers and other efficient equipment at refineries. Some refiners had been using such equipment for a considerable time before this date, but its more general adoption may be said to date from the early part of 1924.

The lowering of the average initial boiling point and the average 10 per cent point probably is due in part to the increased supply of highly volatile material which became available with the increase in cracking equipment and increased production of natural gasoline.

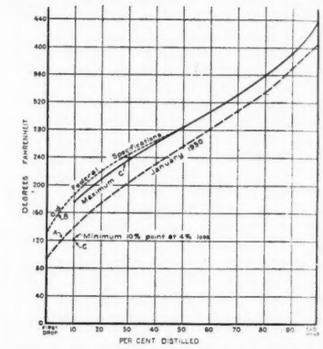


Figure 2—Distillation curve of average gasoline; A, average for January, 1930; B, old Federal specifications; C, Federal specifications, effective September 11, 1929.

Distillation curves representing the present Federal specification for U. S. Motor gasoline and the average of all samples in the present survey are given in Figure 2. The samples were tested in accordance with methods described in Bureau of Mines Technical Paper 323B;

TABLE 1.—AVERAGE RESULTS OF MOTOR GASOLINE SURVEYS—WINTER

Survey—	Specific gravity	Deg. A.P.I.	First drop	10%	20%	50%	90%	End-point	Avg. b.p.	Pct. recovered
Jan., 1920	0.748	57.7	119	172	200	259	369	427	264	96.6
Jan., 1921	.744	58.7	113	168	197	261	377	431	264	95.9
Jan., 1922	.745	58 4	102	168	200	267	377	430	268	96.0
Jan., 1923	.744	58.8	107	167	201	267	375	427	268	96.0
Jan., 1924	.748	57.7	96	164	196	267	383	431	268	96.2
Jan., 1925	.746	58 2	95	161	195	266	382	425	267	96.2
Jan., 1926	.747	57.9	93	155	189	264	380	423	264	96.3
Jan., 1927	.748	57.7	92	149	185	264	383	421	264	96.5
Jan., 1928	.747	57.9	90	146	181	261	378	416	260	96.5
Jan., 1929	.746	58.2	87	143	179	263	380	414	260	96.1
Jan., 1930	.741	59.5	93	139	174	256	371	406	254	96.6
Average	0.746	58.2	99	157	191	263	378	423	263	96.3

TABLE 2.—AVERAGE RESULTS OF MOTOR GASOLINE SURVEYS—SUMMER

Survey—	Specific gravity	Deg. A.P.I.	First drop	10%	20%	50%	90%	End-point	Avg. b.p.	Pct. recovered
July, 1920	0.749	57.4	130	182	208	268	388	446	277	96.7
July, 1921	.747	57.9	125	177	202	262	377	433	270	96.7
July, 1922	.752	56.8	121	176	208	270	375	429	273	96.8
July, 1923	.751	56.9	125	179	206	269	382	436	273	96.8
July, 1924	.751	56.9	107	167	200	271	390	431	273	96.0
July, 1925	.754	56.2	108	169	204	275	387	427	275	96.2
July, 1926	.750	57.2	100	162	194	266	382	421	267	96.7
July, 1927	.748	57.7	102	159	193	267	381	417	267	96.4
July, 1928	.748	57.7	100	156	190	265	380	413	265	96.1
July, 1929	.748	57.7	102	155	187	263	378	410	264	96.1
Average	0.750	57.2	112	168	199	268	382	428	270	96.5

TABLE 3.—AVERAGE RESULTS OF MOTOR GASOLINE SURVEY, JANUARY, 1930

District—	Specific gravity	Deg. A.P.I.	First drop	10%	20%	50%	90%	End-point	Avg. b.p.	Pct. recovered
Boston	0.737	60 5	96	136	170	253	361	396	249	96.3
New York	.740	59.7	97	141	176	257	366	405	254	96 8
Washington	.751	56.9	102	145	179	255	370	408	256	96 8
Pittsburgh	.749	57.4	92	140	175	256	374	406	255	96 8
Chicago	.741	59.5	91	138	172	253	374	406	254	96 2
New Orleans	.740	59.7	95	137	172	257	364	402	252	97.0
St. Louis	.739	60.0	91	139	176	263	376	408	259	96 4
Bartlesville	.735	61 0	87	138	172	259	379	415	257	96 8
Omaha	.732	61.8	94	137	171	254	367	401	252	96 5
Denver	.737	60.5	81	132	168	260	367	400	251	96.3
Laramie	.740	59 7	81	130	164	249	366	402	247	96.8
San Francisco	.749	57.4	94	140	177	257	375	413	257	96 8
Average	0.741	59.5	92	139	174	256	371	406	254	96 6

the barometric pressure in millimeters of mercury at the time of distillation is given as a matter of record, except in the samples from Laramie, Wyo., and Denver, Colo. The analyses for each of these cities have been corrected for the difference in altitude between the city and Bartlesville, Okla., where the analyses were made. All temperatures are shown in degrees Fahrenheit.

New Specifications

On June 11, 1929, the Federal Specifications Board revised the distillation requirements for U. S. Motor gasoline. This revised specification became mandatory on September 11, 1929, for gasoline purchases by all government departments. The revised requirements are as follows:

Distillation Range. — Method 100.13. When 10 per cent has been recovered in the receiver, the thermometer shall not read more than 80° C. (176° F.) nor less than 50° C. (122° F.); provided that, for each per cent distillation loss less than 4 per cent, obtained in the A.S.T.M. distillation, the minimum 10 per cent temperature requirements shall be lowered 3° C. (5.4° F.). The Government reserves the right by proper provision in the contract or purchase order[1] to lower the maximum 10 per cent point either 9° F. or 18° F. Administrative action in this respect may be taken by contracting officers to meet the temperature conditions under which the equipment must operate. (See Note 1.)

Note 1.—Contracting officers are advised that in general the expectation of freezing temperatures warrants the lowest maximum 10 per cent temperature.

Note 2.—When United States Government Motor gasoline is to be used for some special purpose, such as that requiring tropical storage, the Government reserves the right to raise the lower limit at the 10 per cent point to not higher than 60° C. (140° F.) with the same corrections for distillation loss as given above. This limit, however, should not be applied unless absolutely necessary, since the gasoline so procured is less satisfactory for general purposes.

When 50 per cent has been recovered in the receiver, the thermometer shall not read more than 140° C. (284° F.).

When 90 per cent has been recovered in the receiver, the thermometer shall not read more than 200° C. (392° F.).

The endpoint shall not be higher than 225° C. (437° F.).

At least 95 per cent shall be recovered as distillate in the receiver from the distillation.

In order to compare the new specifications with the old, as well as with the average distillation curve for the gasolines reported in this survey, the old specification is shown as a dotted curve in Figure 2.

The 10 per cent temperatures of the individual samples are included in Table 4, but as they were not given in the samples reported upon last winter, no comparison can be made. In Table 6 this point has been included under each city and it will be noted that the samples this winter are much more volatile than those of last summer at the 10 per cent and also the 20 per cent point.

A study of the analyses of the 158 samples shows that no sample failed to pass the maximum 10 per cent temperature requirement of the revised specification. The highest 10 per cent temperature recorded was 165° F., but this sample passed all the requirements. Three samples, one each from Boston, Chicago and Pittsburgh, had a temperature below 122° F. at the 10 per cent point. The sample from Boston, however, had a distillation loss of only 3 per cent and therefore was within the limits of the specification.

[1]Special attention is invited hereto.

V.O.C. PRODUCTION

NEW YORK, Mar. 31. — Venezuelan Oil Concessions, Ltd., reports for the week ended March 22 crude oil production of 129,088 metric tons, equivalent to 18,441 metric tons per day, compared with 127,917 metric tons, or 18,274 metric tons daily, in the previous week.

TORSION BALANCE SURVEY AT ESPERSON

(Continued from Page 38)

cause a distinct shift of the observed center of the minimum toward the South Liberty-Dayton minimum. The center of the observed minimum, therefore, does not necessarily represent the center of the minimum as produced by the particular salt dome in question.

The outer cause for the shift of the center of the observed minimum from the center of uplift is due to the fact that the center of the minimum as mapped by any gravitational method will be the center of the whole mass of salt below the depth of some 7,000 or 8,000 feet. A salt spine extending into the neutral zone will produce absolutely no gravitational effect at the surface and a salt spine in the upper part of the zone with a density difference of —0.05 will not produce an appreciable effect. A salt spine, therefore, may extend upward from a 7,000-foot salt table to 4,000 feet and control the center of uplift for the oil man but not be reflected in the mapable gravity anomaly at the surface. This we know to be the case at Edgerly.

Asymmetry of Salt Mass

There is also a third cause which probably is not nearly as important as the other two and that is the asymmetry of the salt mass, but in general I suspect that salt domes are symmetrical enough that the effect of the asymmetry is negligible.

Maxima such as those between the South Liberty-Dayton dome and the Esperson dome are now recognized as not indicating the presence of a salt dome. In the early history of the torsion balance work in the Gulf Coast, it was learned that most of the nonsalt domes were characterized by gravity minima. One or two domes, such as North Dayton, seem to be characterized by a minimum instead and we also recognized that there was a grade away from the salt over the flanks of many of the domes having maximum, but the maximum was a much more striking feature and, therefore, in the early days of torsion balance work in the Gulf Coast we hunted only for maxima. In addition to the typical maxima on such new domes as Nash, Long Point, Clements and Allen domes, we also picked up maxima that were not typical. We hoped that they indicated domes producing a faint and irregular gravity anomaly such as Markham was known to produce, and a considerable number of these nontypical domes were drilled with entirely negative results. We now know that there are at least two types of maxima, the one type associated with shallow domes and indicating the presence of a shallow dome, and the other type, the early large broad, sometimes somewhat linear maximum, which indicates only the presence of two or four conflicting basins of minima and which do not indicate the presence of a salt dome underlying the maximum but rather indicate the absence of a dome underlying the maximum. There are other, yet more irregular, maxima which are due to irregularities in density of the upper sediments.

PREMIUM GASOLINE AND OIL SHOW LARGEST GAIN

(Continued from Page 130)

1929 about one-quarter of a cent per gallon.

Motor Truck Equipment

"At the middle of 1928 the company's motor truck equipment was antiquated, and the present management began replacing the same with modern, fast-moving trucks. This was continued extensively in 1929, the company having expended in that year over $600,000 for such truck equipment. The effect of this has been not only to replace old trucks with a smaller number of new trucks, but to increase very substantially the gallonage per truck. In addition to the economies of transportation, it was possible, as a result of the use of these new trucks to close and abandon about 38 of the company's bulk stations, or about 10 per cent of the total. The tankage at these stations in most instances was moved to other stations where it was needed, thus saving considerable capital expenditures. No business has been lost as a result of this elimination, and material savings in expense have resulted. It is contemplated that during the coming year an equal number of bulk stations will be closed through continuance of the modernization of our truck fleet.

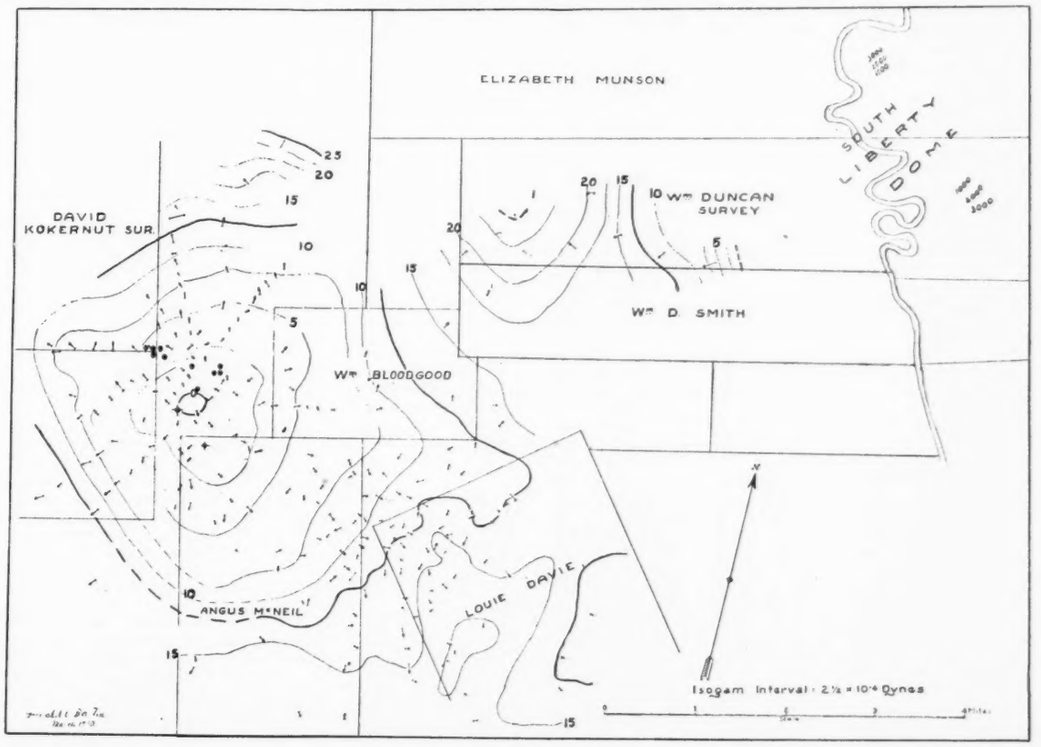
"As a result of economies and increased sales our selling cost of all products sold through service stations and tank wagons (without attributing any of the sales expense to tank car sales) was .22 cent per gallon lower in 1929 than in 1928, and .92 cent per gallon lower than in 1927.

"As stated in last year's report, the advertising budget for 1929 was large in comparison to that of any previous year but seemed necessary to yield a proper maximum profit. Your board of directors feels that the gains in sales for 1929, and especially the increased proportion of sales of premium priced products, could not have been accomplished without the advertising campaign which was conducted throughout the year. The advertising media employed have included newspapers, Ohio magazines, radio, posters, billboards, road maps and miscellaneous pamphlets.

"It is true that advertising, just like price cutting, cannot stimulate materially the total demand for gasoline, and operates fundamentally simply to take business from one company and transfer it to another. By concentrating its advertising, however, upon its premium priced products this company has been able to increase the demand for those products. The advertising expenditures of this company have been economical in increasing the company's profits through premium priced goods far beyond the advertising cost. It is also interesting to note that the advertising has increased the company's total sales, and that the total sales of the ordinary priced gasoline have been substantially increased while the percentage of premium priced sales was mounting.

"Your management feels that it began its policy of advertising just in time. One of the primary purposes of creating consumer demand through trade brands and advertising is to assure continued output through a manufacturing department up to economical production. In the past two years the public has become brand conscious in the matter of gasoline, and it is becoming increasingly difficult to sell an unadvertised brand.

"The effect, and probably instinctive purpose, of this advertising in the gasoline business has been to knit the dealers in with the general sales organization of the refining and marketing company. The time is passing when a sale is deemed completed when an order is received from a dealer, and the work of sales departments more and more is tending toward assisting the dealers in the sale of their goods after the purchase. More and more, through advertising, dealers are becoming identified by color, signs, standardization of service, and other devices, exclusively with a particular refining and marketing company, thereby saving the waste which comes from duplication of different companies' pumps with resulting small gallonage per pump."



VAN POOL HAS 16 WELLS CHOKED DOWN TO 15,000 BBLS. PER DAY

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

VAN, Tex., Apr. 1.—There are 16 wells producing in the Van Pool, in Van Zandt County, all of them being choked in and the production of the pool is estimated at 15,000 bbls.

The Texas Company's No. 1 R. A. Tunnell, on the John Walling Survey, and a southeastern location, got the top of the sand at 2,755 feet and drilled to a total depth of 2,781 feet. It was allowed to make 87 bbls. through a 1-inch choke.

The Pure Oil Co. and The Texas Company's No. 1 R. V. White, Nacogdoches County school land, in the Van Pool, made 625 bbls. in 13½ hours through a nine-sixteenths-inch choke. Top of the sand was 2,791 feet, total depth 2,990 feet.

The Pure Oil Co.'s No. 1 A. R. Tunnell made 764 bbls. in 18 hours through a nine-sixteenths-inch choke from sand topped at 2,489 feet, total depth 2,675 feet.

Roeser & Pendleton's No. 1 Moody, J. Welch Survey, Anderson County, cored salt water at from 4,744-59 feet.

West Texas Oil & Royalty Co.'s No. 1 Negro Orphanage, located 250 feet from the south and east lines of a 100-acre tract in the C. E. Rivers Survey, 1 mile south of Mineola, in Wood County, one of the most interesting tests of the district, topped the Pecan Gap at 3,043 feet this week and is shut down at 3,132 feet for orders. It is running low.

Last week we received the report that the Shell Petroleum Corp. was tearing down its derrick on the La Rue structure near the town of La Rue in Eastern Henderson County, but later word was received rescinding the "tearing down order," and the location is to be drilled at once. The La Rue block has probably attracted as much, if not more attention than any other block in East Central Texas, and royalty and lease prices have gone sky high on acreage around the block.

Anderson County chalked up a disappointment in Magnolia Petroleum Co.'s No. 2 H. B. Williams, when the test was abandoned as dry at a total depth of 4,805 feet. It was located in the William Bledsoe Survey, 2½ miles southwest of Boggy Creek.

Break in Unit Plan?

Cranfill & Reynolds have a rig on the ground for their No. 1 Clark, located 160 feet from the west line and 52½ feet from the north line of a strip 101½ feet by 1,100 feet off the north end of Clark's 24-acre tract in the John Wailing Survey, southeast of the discovery well in the original Pure Oil Co. block, a location which is practically sure of production. It will be the first test in the block not to be drilled by the Pure Oil Co., and rather breaks into the unit plan of production for the pool. Agreements have been made between other small strip holders in the pool and the Pure Oil Co., most of the small plats having been purchased by Pure at exorbitant prices.

Several miles of 10-inch pipe have been laid on both ends of the Pure Oil Co.'s line which is in process of construction from Chandler to Smith's Bluff on the Gulf Coast. It will be the first trunk line outlet for the Van Pool. It is to be completed in about 90 days, and ready to transport crude oil from the field.

The Texas & Pacific Railroad is building a branch line to the town of Van, near the Van Pool, from its main line at Grand Saline, about 12 miles north, and this line will be the first into the area, transporting all supplies for the town and the field. Heretofore, all supplies have been hauled by motor truck from Grand Saline, and impassable roads have often halted developments in the area, consequently the branch line will be a great boon to producers in the pool and to wildcat operators in the vicinity of Van.

Freestone in Limelight

Freestone County is gaining more recognition, with the present drilling of four wells in the county, and much leasing and royalty trading going on. The Shell Petroleum Corp. took up its option on 6,500 acres near the town of Turlington in the Aguilera Survey in the eastern part of the county, and Sun Oil Co., The Texas Company and Humble Oil & Refining Co. already have some leases in this area, which is approximately 3½ miles northeast of Penn and others' No. 1 Burger in the Cesario Chamar Survey.

PRODUCTION
EAST CENTRAL TEXAS

Boggy Creek	3,550
Cedar Creek	50
Currie	382
Hill County	45
Mexia	4,199
Minerva	470
Nigger Creek	210
Powell	5,854
Richland	220
Thrall	31
Van	10,359
Wortham	910
Total East Central Texas	26,280
Last week	25,712
Increase	568

EXPORT PURCHASES AID GASOLINE MARKET

(Continued from Page 36)

were considered difficult to refine due to the sulphur compounds and other impurities. Many refiners maintained a policy of refining these crude oils as little as possible getting rid of the bulk of the crude as fuel oil regardless of price.

Higher Prices

This situation has been changing rapidly over the past few months and if the producers continue in their policy of curtailing production in line with the current demand the changed refinery situation should be reflected more and more in fuel oil prices. Some of the low gravity crudes from which the bulk of the fuel oil is obtained are now viewed with special favor by refiners. They have solved the manufacturing difficulties and have found that the gasolines obtained from these crudes either in a skimming or cracking operation are highly desirable from the antiknock standpoint and this has become the outstanding measure of relative values in motor fuels.

In Oklahoma and Kansas and most of the other areas operating with high gravity crude oils, the yields of residuum fuel oils have declined rapidly. Most of the refiners are either running to a coke or a low gravity fuel oil which is being sold on contracts or local industries and public utilities. One refinery operator predicts that within a short time, fuel oil sales in Oklahoma and Kansas will be confined to railroads and other local buyers located at points where the seller can absorb the freight rate advantage.

This objective would no doubt have been obtained some time ago had it not been for widening sales of natural gas in Oklahoma and Kansas to commercial users. The network of gas lines now almost covers the two States and many small industrial plants and public utility plants which formerly used fuel oil are now burning gas.

The fact that these gas lines are spreading to industrial centers of the Middle West will widen this competitive situation between fuel oil and gas and further emphasize the need of curtailing the output of the former to supply the most favorable markets.

Should crude oil prices be advanced in the near future—a development which appears probable—the importance of the cracking operation will be accentuated during the season of the maximum gasoline demand and further restrict the quantity of fuel oil available. Market observers familiar with this situation generally interpret it as pointing to a stronger fuel oil market with a continuance, however, of wide ranges in prices. Material suitable for cracking or furnace oil will bring substantially higher prices. At the same time grades which do not meet all of the commercial specifications will be available at lower prices.

Gasoline and Naphtha

On Monday and Tuesday considerable interest was manifested in the April market. The demand slowed up the latter part of last week. The cold wave and snow which swept across a part of the Middle West was held responsible for this development. Many jobbers ordered out material on both contracts and on the spot market on Monday and Tuesday apparently figuring that prices would go higher if any changes were made.

U. S. Motor gasoline is moving to the trade at a price range of 6¼ to 6⅝ cents. The bulk of the spot business is still under 6½ cents. It is believed that this grade is headed for a 7-cent market before the end of the month. The 60-62 437 was quoted over the same price range as U. S. Motor gasoline.

The 60-62 400 endpoint is in good demand at 6⅝ to 6¾ cents with a few sellers quoting higher prices. The export business has stiffened the market in the 390 and 375 endpoint grades. The first grade was available for domestic shipment at a low of 6¾ cents and the latter at 7¼ cents. The domestic demand is not active but the supply is largely limited to regular customers. The makers of naphtha report a better demand and prices are firm.

Natural Gasoline

Natural gasolines appeared to be experiencing their usual first of the month dullness but the prices in effect at the close of the previous week were being maintained. Some manufacturers were expecting the dullness to result in slightly lower price while others were predicting heavy buying within a few days which would push the Grade AA market to a low of 6 cents and Grade BB to 5¼ to 5½ cents.

Unlike early March there were few unfilled orders at the start of April. Much depends on the trend in the refinery market. Should U. S. Motor advance to 7 cents as is predicted it appears probable that the natural gasoline manufacturers can make a similar advance in their products.

Grade AA was selling at 5⅝ cents on Tuesday with an occasional 5¾-cent sale reported. Grade BB, the other grade, was selling at a price range of 4¾ to 5 cents.

Distillate

The Chicago group of refiners and others located in the Middle West are dominating the distillate market. These plants are located in the area where the bulk of the furnace oil is consumed and they have a freight advantage of from one-half to 1½ cents a gallon when selling in competition with Mid-Continent refiners. These refiners have had supplies in excess of their regular customers and they have taken a large part of the spot jobbers trade. They have sold the better grades of furnace oil on a basis which would have required 2⅝ and 2¾-cent quotations in Oklahoma.

The prevailing low quotation in Oklahoma is 3 cents for either 36-38 or 38-40 straw color material with a range in prices up to 3½ cents.

Gas Oil

Gas oils were also more freely available although the low of the market continues at 2½ cents. The demand for U. G.I. material is not so active although holding up well considering the season. Desirable grades of gas oil charging stock are being sold for 2⅝ to 2¾ cents.

Neutral Oils

The largest manufacturer of neutral oils in Oklahoma advanced all grades of neutral oils the first of the month. Although neutral oils of the same viscosity and color as manufactured by several refiners in Oklahoma are usually not uniform in price it is believed that the advance will be generally adopted within a few days.

Except for some of the low viscosity grades, refiners in most cases are well sold up and have their output for the next few months sold on contracts or to regular customers. The greatest advances were made in the 240 and 280 viscosity grades. There has been an increasing demand for these grades. Their manufacture involves a large reduction in yields and higher manufacturing costs. Some of the manufacturers have felt that prices for these grades were not in line with other grades due to the increased cost and the new prices are an attempt to bring about a more balanced price situation.

Bright stocks and wax prices are unchanged. More inquiries are reported for the latter product but offers are usually below the mimimum established by the refiners in this territory.

A.G.A. CONFERENCE ON DISTRIBUTION OF GAS

The program for the distribution conference of the American Gas Association to be held at the Statler Hotel, St. Louis, Mo., Wednesday, Thursday and Friday, April 9, 10, 11, 1930, follows:

Wednesday, April 9, 10 a. m.—Opening remarks, J. H. Braine, chairman, Distribution Committee.

Report—Cast Iron Pipe Standards Committee, Walton Forstall, Philadelphia Gas Works Co.

2 p. m.: Report—Pipe Joints Committee, O. S. Hagerman, American Light & Traction Co., Chicago.

Paper—Cast Iron Pipe Joints Research at A.G.A. Laboratory, K. R. Knapp, A. G.A. Laboratory, Cleveland, Ohio.

Paper—Pipe Joints Research at U.G.I. Laboratory, H. W. Battin, United Gas Improvement Co.

Paper—Unaccounted-for Gas, J. M. Pickford, Midland United Co., Chicago.

Thursday, April 10, 1930, 9:30 a. m.: Report—Meters Committee, W. H. Bettle, Public Service Electric & Gas Co., Newark, N. J.

Paper—Orifice Meters, D. A. Sillers, Lone Star Gas Co.

2 p. m.: Report—Committee on Pipe Coatings and Corrosion, J. K. Crowell, S. R. Dresser Manufacturing Co., Bradford, Pa.

Report—Progress in Pipe Coatings Research, Dr. Scott Ewing, research associate, Bureau of Standards.

Presentation—Summary of Progress in Corrosion Research of the A.P.I., Dr. Gordon Scott, research associate, Bureau of Standards.

Paper—Correlating Soil Characteristics with the Corrosion on an Oil Line, Dr. I. A. Denison, Bureau of Standards.

Discussion—High Pressure Transmission of Natural Gas, Pipe Line Flow Committee, Natural Gas Department, E. L. Rawlins, Bureau of Mines, Petroleum Experiment Station, Bartlesville, Okla.

The open forum will be devoted to a discussion of problems introduced by the delegates on matters not covered in the other program items listed.

HOBBS AREA PROJECTS

FORT WORTH, Tex., Mar. 31.—Following the news that the Humble Pipe Line Co. has surveyed a right of way for 40 miles of 8-inch line to run from a point near Jal, where it has a line, to the Hobbs area in southeast New Mexico, another rumor is out that the Atlantic Pipe Line Co. will lay a line from its Midland tank farm through Andrews County by the Deep Rock and others' No. 1 Ogden producer, up to the Hobbs area, but no confirmation can be obtained, although the Atlantic Oil Producing Co. has an interest in the Deep Rock well and acreage, and if other producers are completed in this area, meriting the laying of an outlet, the Atlantic Pipe Line Co. will no doubt run the line. Deep Rock is now drilling three wells near the producer, but it will be several weeks before they are completed.

Stil another rumor states that the Eggleston Pipe Line Co. will build a 10-inch welded line from Winkler County to the Hobbs area in New Mexico for the Shell Petroleum Corp.

CONSTRUCTION-OPERATION

(Continued from Page 129)

his company a permanent position in the field. This might be accomplished by the simple expedient of contracting for the available gas, or by working out trades with others who may feel disposed to "sit tight." Trades in gas in other fields are often made, and pipe line connections, etc., enter considerably into the picture, particularly when oil is in demand. In fields where there, obviously, is room for several plants, the contract man will try to consolidated his acreage by trading with other manufacturers in order to avoid the crisscrossing of lines and the duplication of line controls, compressors, etc. There is no magic in having particular leases strung out on the map. On the other hand, the advantages of a compact gas producing unit need no expatiation.

The outstanding features of a standard casinghead gas contract will be discussed in the next article. Suffice it here to say that every material deviation from this "standard" not only works a hardship upon the manufacturer, but goes further than that. It endangers his ability to operate at a profit. This reacts against the seller for a plant that is losing money is not apt to render the sort of service the producer would like to have. If the plant is owned by a large company, the service may be up to standard, but a small organization cannot afford a losing proposition and grin. It is more than likely that a large manufacturer would not get into a situation where he would be forced to pay prohibitive prices for gas. It may be that an adherence to this policy has made him large.

Gas contracts are very elusive and cannot be depended upon until they are signed and delivered. While there are, as stated, several functionaries whose especial task it is to obtain gas contracts, considerable may be done on this score by other departments. He who sells crude oil can often swing a contract under favorable conditions, while the land and lease department can "nest" a gasoline situation in some cases by making "gas rights" in the pool a condition of trading. Since it is fundamental that gas contracts are of prime importance in the initiation of a plant situation, as well as in the plant's profitable operation, it is essential that every important member of the organization carry the "contract" situation in his consciousness until the proposition is "put over." The comfort and aid the officers of a company can render in this respect cannot be overestimated. They cannot give too much assistance to the conclusion of casinghead contracts—and too often render not enough.

IDEAL BUBBLE PLATE IN TOWER DESIGN

(Continued from Page 41)

plate of this type. The resultant expression takes the form:

$$\log_e(t_V - t'_L) = \log_e(t_V - t_L) - Vc_V/Lc_L \quad (3)$$

Solving this equation for t'_L, the temperature of the liquid at the overflow, we find it to be 173° F. and the final vapor temperature is 137.2° F. The heat interchange is 131.4 B.t.u. per second or 87.5 per cent of the maximum heat exchange possible with an infinite number of plates as against 79.3 per cent with the so-called ideal plate.

It is of interest to tabulate these results for comparison, as below.

TABLE 1—EFFECT OF CONSECUTIVE CONTACTS OF LIQUID WITH VAPOR ON SINGLE PLATE

No. of contacts—	Initial vap. temp. (° F.)	Final vap. temp. (° F.)	Initial liq. temp. (° F.)	Final liq. temp. (° F.)	B.t.u./sec. heat exch.
1	400	165.2	100	165.2	117.4
2	400	152.7	100	168.7	123.7
4	400	145.0	100	170.8	127.4
8	400	142.0	100	171.8	129.2
Inf.	400	137.2	100	173.0	131.4

It is seen that the old conception of the ideal plate represents the lower limiting case of attainable heat exchange on a single plate where the ideal condition of equilibrium exists at all points of contact between liquid and vapor.

A more striking exposition of the effect of this modification of the ideal is furnished by an analysis of the conditions existing on each plate of two columns, the first equipped with an infinite number of single contact plates, and the second with an infinite number of plates, each having infinite progressive contacts as outlined above. Working up from the bottom plates of the columns with the same liquid and vapor conditions as above, we may determine the vapor and liquid temperatures on each plate of each column by using the equations already developed and the relation shown that, with infinite plates of any description, the final vapor temperature will be 100° F. (equal to the initial liquid temperature) and the final liquid temperature will be 183.4° F. The results of this calculation are tabulated below. The vapor and liquid temperatures given refer to the vapor and liquid as they leave the plates indicated.

TABLE 2—COMPARISON OF TEMPERATURES ON EACH PLATE OF COLUMNS WITH INFINITE PLATES

Plate No.	Column with inf. single contact plates t_V and t_L	Column with inf. progressive contact plates t_V	Column with inf. progressive contact plates t_L
1 (bottom)	183.4	150.0	183.4
2	123.3	108.5	114.0
3	106.7	101.6	102.5
4	102.1	100.3	100.58
5	100.82	....	100.26
6	100.47	....	....
Inf. (top)	100.00	100.00	100.00

The vapor temperatures are plotted for the two types of column in Figure 3. Obviously the two columns, each having infinite plates, arrive at the same result but in the intermediate zones it is strikingly apparent that the conventionally ideal plate column requires more plates to accomplish the same result than the column with plates of the progressive contact type. For instance, it requires 3.25 conventional plates (out of an infinite number) to bring the vapor temperature down to 105° F. against only 2.25 of the modified plates, or 45 per cent more plates. The progressive contact type of plate gives any desired degree of approach to an infinite number with materially fewer plates and we may make the rather paradoxical statement that an infinite number of that type of plate is less than an infinite number of the conventional type. In other words, a column equipped with a finite number of the modified type of plate will accomplish the same result with less reflux than one equipped with the same number of the conventional ideal plates, or will require less plates if the same reflux is used.

Realization of this effect should have a profound influence on bubble plate design. It gives us a new conception of the ideal plate and points out the type of flow we should endeavor to attain in our bubble plates. It tells us that, in so far as practicable, we should have our liquid flow in as few parallel elongated streams, passing as many bubble caps in series, as possible. It is often as simple to do this as otherwise, yet the writer has seen in use elaborate bubble plates where a very obvious effort is made to create as many parallel streams as possible. Almost every modern bubble plate has some cross flow but where a conscious effort is made to increase the degree to which the reflux progressively contacts small increments of vapor, improvement can usually be effected.

OIL IN UNIVERSITY COURSE

SHREVEPORT, La., Mar. 31.—Beginning with the second semester, the University of Arkansas at Fayetteville has inaugurated a course in oil and gas law and another in taxation. The courses were added because of oil and gas activities in the State and the anticipated development of the prospective Arkansas Valley gas areas.

CONSIDER TUBING YATES POOL PRODUCERS

(Continued from Page 37)

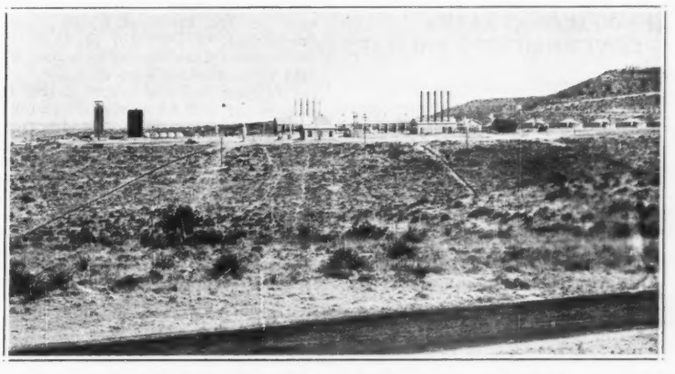
that are made up of 400 feet of 1-inch at bottom, 400 feet of 1½-inch and 2-inch the balance of the way up the hole.

From tests it has conducted it found that in a number of cases it lowered the proportion of gas to oil from 4,000 cubic feet per barrel to as low as 200 cubic feet.

It has been noted that the best results were obtained where the bottom of the tapered string of tubing was set below the top of the gas zone and into the first big oil pay horizon encountered in the well. In some of its wells it found that this gas stratum will produce as much as 5,000,000 cubic feet of gas daily but by following the methods outlined above the very low gas-oil ratio has been secured.

Mr. Richmond stated that if the present program in mind is carried out, based on the 400 cubic foot ratio of gas to barrel of oil the present gasoline plant of the Humble Oil and Refining Co. in the Yates Field is of sufficient size to take care of all gas produced and will pay back to the operators enough revenue to take care of the expenses of tubing their wells.

This statement is based upon experiments which show that at this time the average gasoline content of the gas going to the gasoline plant is about 0.9 gallons per 1,000 cubic feet. From wells that are producing with a low gas-oil ratio it has been found that the gas contained as high as 1¾ gallons of gasoline per 1,000 cubic feet so while the amount of gas produced would be considerably less than that now coming out with the oil the actual gasoline to be obtained from the reduced volume would be about the same.



Humble Oil & Refining Co. gasoline plant, Yates Pool, Texas.

Humble's Gasoline Plant

It is understood that at this time the Humble Oil and Refining Co.'s gasoline plant is handling about 24,000,000 cubic feet of gas per day and making about 22,000 gallons of gasoline while about 20,000,000 cubic feet of gas is going to waste. However, it has been found by test that those wells now blowing to the atmosphere have a low gasoline content and the gas going through the plant is about all that can be economically handled.

There is no intention at this time, it was stated, to increase the capacity of this plant other than to add feed water treating system for the boiler plant and make a few small similar improvements. The grounds will be improved and grass planted along with shrubs and trees to make the site more attractive. The gasoline made by this plant is now being piped to McCamey in a 4-inch line used exclusively for this purpose.

M. O. Boring, of the Gulf Production Co., announced the intention of his company to go ahead with its tubing program and expressed his willingness to furnish any information or let any of the other operators see the equipment that is now being used by the Gulf Production Co. and described above, in order to assist them in any way as to the proper equipment for tubing purposes.

The other companies did not show any inclination to defer from putting into effect this tubing program but it does seem that each well is its own problem and the actual need for tubing in some parts of the field does not seem to have arrived for the wells flowing through the casing are only making a gas-oil ratio lower than the 400 cubic foot limit suggested by Mr. Richmond as suitable for the trial of this program.

Representatives at Meeting

The following representatives were present at this meeting:

R. W. Richmond, umpire Yates Pool; P. P. Gregory, proration petroleum engineer; Charles E. Beyer, Plymouth Oil Co.; C. M. Oden, Phillips Petroleum Corp.; Gordon James, Gulf Production Co.; Colin Ruth, California Oil Co.; F. G. Bascom, Mid-Kansas and Transcontinental; Hoyt Kniveton, Savoy Oil Co.; Walter L. Earnhart, California Oil Co.; James S. Posgate, Big Lake Oil Co.; Charles N. Hickox, Plymouth Oil Co.; W. A. Schaeffer, Shell Petroleum Corp.; Clyde V. Temple, Humble Oil & Refining Co.; R. B. Latting, Transcontinental Oil Co.; Dale Nix, California Oil Co.; Ray Hollingsworth, Simms Petroleum Corp.; T. E. Sloan, McMan Oil & Gas Co.; William Todt, Gulf Production Co.; E. J. DeuPree, California Co.; Frank Redick, Mid-Kansas and Transcontinental, A. Stepanoff, Mid-Kansas and Transcontinental; M. O. Boring, Gulf Production Co.; S. G. Forney, Gulf Production Co.; T. W. Rhoads, Gulf Production Co.; W. W. Reeves, Phillips Petroleum Corp.; K. L. Sappington, Shell Oil Co.; A. L. Henderson, Mid-Kansas and Transcontinental; Harvey Hardison, California Co.; William V. Vietti, Texas Oil Co.; H. P. Cartney, California Oil Co.; Mr. Reavis, California Oil Co.; Mr. Gribble, Humble Gasoline Refinery, and L. G. E. Bignell, The Oil and Gas Journal.

Back Pressure on Traps

Several other matters of interest to operators in the Yates Pool were briefly discussed at this meeting. Among these was one dealing with the benefit of back pressure on the traps to increase the gasoline contents of the gas going to the gasoline plant. The effect of carrying such a pressure on the traps was also considered with regard to the results that would be obtained in change of gravity of the oil that went to the lease storage tanks and pipe lines.

Mr. Richmond also asked for a report of the drilling operations on every well in the field so that they might complete their curves showing dates of completions and the dates of the appearance of water in the wells. It is understood that about 59 wells in this field now show water to some extent but it is thought that by following the tubing plans as outlined the rate of water encroachment will be retarded.

The methods of testing wells for securing proration data was also discussed briefly and Mr. Richmond urged all the members of the engineering committee to give this matter immediate consideration so that some equitable system may be worked out before the next proration period begins in July.

There seems to be very harmonious working relations among all companies

in this field and the work being done by Mr. Richmond and his assistants is appreciated by the operators for it is felt that by following his suggestions much timely data will be accumulated now to be made available when conditions change in this pool and in this way the various troubles now being encountered in other pools in the West Texas Permian Basin area will be reduced to a minimum.

The condition of the various leases in the Yates Pool is worthy of special comment for in no field in this country will better operating conditions be found. Everything about the leases is kept in first class condition at all times and the hundreds of bolted steel tanks used for handling the oil at the leases are spotless and their coats of aluminum paint glisten in the sunlight without a drop of oil appearing on the surface.

The lack of derricks in this field is also very noticeable and the wells are all completed with manifolds at the casing heads from which the lines lead to the tanks. In many cases the wells are surrounded by a pipe fence and everything arranged to give the highest possible efficiency in handling.

The field is one that will interest anyone in the oil industry and judging from past performances of its wells it will long be a factor to be dealt with especially if the program now under consideration is carried into effect and future conditions of production anticipated as much as humanly possible.

ANSWER CONTRASTS GOVERNMENT'S POLICIES

(Continued from Page 40)

in any way to constrain the independent companies to sell gasoline manufactured by them and not sold to this defendant at any price other than such price as said independent company elected or might see fit; alleges that all of the gasoline so purchased by this defendant through the medium of said defendant, F. R. Long, who acted as a broker in the transaction, is and was manufactured in California from crude oil produced in California, is and was purchased by this defendant through the medium of said broker in California, and is and was resold by this defendant in California and retailed in California, and as this defendant is informed and believes and therefore alleges consumed in California; denies that all or any of the foregoing was done with the purpose, intent or effect of preventing said independent companies, or any of them, from carrying on the manufacture or sale of gasoline in interstate commerce in competition with the major companies, or any of them, or to enable this defendant, or any of defendant corporations, to sell the entire amount of gasoline manufactured by them, or any portion thereof, at uniform or noncompetitive prices, or any prices fixed by them, or any of them, throughout the Pacific Coast area, or any part thereof; alleges that nothing in the agreement for the purchase of said gasoline made by this defendant, through the medium of said F. R. Long acting as broker, purported to restrain said independent companies, or any of them, from carrying on the manufacture or sale of gasoline in interstate commerce on any terms that such independent companies, or any of them, might see fit, and alleges that said agreement to purchase said gasoline through said broker had no connection or bearing or relation to the sale by this defendant of gasoline in the Pacific Coast area, and had no relation to or bearing on the prices at which this defendant marketed its gasoline in the Pacific Coast area, and this defendant submits that said purchase of gasoline through said broker F. R. Long was not a transaction in interstate commerce.

No Conspiracy or Agreements

"This defendant alleges that it is without knowledge as to the acts, intents and purposes of the other defendants, or as to any conspiracy or agreements between them, denies that any conspiracy exists or has existed to which this defendant is a party; denies that the same has been or is in unreasonable or other restraint of interstate trade or commerce; denies that each or any of the acts or agreements of this defendant has been in, or of itself, or otherwise, unreasonable, unwarranted or oppressive.

Cites Conservation Board

"And in behalf of the foregoing matters this defendant alleges:

"That during the years of the World War, from 1914 to 1918, necessities of the war and of the nations engaged therein created an increased demand for petroleum and stimulated the efforts of producers and refiners thereof to produce petroleum and its products, including gasoline, in larger quantities and in particular stimulated the efforts of the producers of crude petroleum to discover and develop new oil producing fields; that since the end of said war and during the last 10 years there has been a serious overproduction of crude oil and of all the products thereof, including gasoline; that by reason of the division of ownership and the right to produce oil from the lands overlying oil fields the discovery of oil fields has resulted in each oil field in the stimulation of competitive drilling and consequently the discovery and development of the oil fields in said period of 10 years has resulted in producing and bringing to the surface large quantities of crude oil in excess of the current demand therefor and has resulted in the overproduction of the products of crude oil; that as early as December 19, 1924, the existence of said condition of overproduction was apparent and was recognized by the President of the United States; that on December 19, 1924, in a communication transmitted by him on said date to the Secretaries of War, the Navy, the Interior and Commerce, stating the existence of said overproduction and adding 'that overproduction in itself encourages cheapness, which in turn leads to wastefulness and disregard of essential values,' and thereby creating of said secretaries a Federal Oil Conservation Board for the purpose of studying the Government's responsibility in the premises and to 'enlist the full co-operation of representatives of the oil industry in the investigation'; that on September 6, 1926, said board reported to the President of the United States certain of the facts regarding said overproduction and in that connection said:

Government Urged Co-operation

" 'It is certain that many of the gasoline engines are inadequately designed to secure the most economic use of gasoline. It is estimated that 25 per cent of the gasoline could be saved and the same mileage of movement provided if there were more adequate designs of carburetors and engines. These factors in engine construction have been steadily improving over many years and no doubt, will still continue to improve. Their improvement will be expedited if there should be a tendency of gasoline prices to rise',

"advising that the board's inquiry would continue, and concluding as follows:

" 'Co-operation within the industry can effect economies all along the line—in development and production, a better balancing of supply to demand, when and where the oil is needed; in transportation, better planning, thus avoiding crosshauls of crude and crosshauls of products; in distribution, less duplication of marketing facilities, which at times even involve an expense equal to the cost of production and refining. Large savings in both production and refining are possible through the general adoption of the best technique already used by the more progressive units.

* * *

" 'The complete organization of co-operative effort is recommended, with simple but effective working units that will insure full contact of the industry with both State and Federal Governments and continuous contact between all operators in an oil field. Co-operation of the industry with the Government in planning and carrying out research is necessary, to make full use of all the facilities, resources and personnel available';

"that on January 16, 1928, said board reported to the President of the United States further progress of said investigation, and concluded:

" 'A notable sign of the times is the indorsement given to oil conservation by the technical and trade press. The columns of these journals have been open for contributions from a wide circle of engineers and economists discussing every phase of the oil business. There has been no opportunity for interest to lag. Especially helpful has been the editorial attitude of most of the journals. Many of the more recent editorials show a full understanding of the true purpose of this federal inquiry and give it a sympathetic support that will go far in justifying the faith "that Government and business can well join forces to work out this problem of practical conservation" ';

"that on March 3, 1929, said board further reported to the President, saying:

Conservation Demanded

" 'The complete organization of co-operative effort recommended by the board in its first report has not been attained, but the keen and sustained attention given to the study of new methods, the many conferences held, the large number of working committees organized within the industry, and the co-operative spirit with which different units have worked together are all indicative of a new appreciation of responsibility. The acceptance of the principle of conservation as a practical policy by the foremost executives of the larger oil companies is a hopeful sign of the times. The closer contacts both within the industry and between it and state and federal officials also promise gradual betterment of economic conditions. In short, more progress has been made than was expected';

"that said report concluded:

" 'The obvious inference is that the United States is exhausting its petroleum reserves at a dangerous rate. If the international comparison is made, this country is depleting its supply several times faster than the rest of the world. How real is the danger expressed in this fact and what remedy can be devised are questions confronting the American people as they plan for the future.

* * *

" 'It may be assumed in advance that for reasons which have been mentioned in previous reports, although greater economy of use may be attained, this alone will not appreciably flatten the curve of our constantly increasing consumption. At the present time no other means of limiting the use of petroleum products or lessening the gross amount consumed is apparent other than the usual economic control exercised by price';

"that within the last five years, without any decrease in the production of crude oil, the proportion of gasoline obtained therefrom has been largely increased by the development and perfection of the so-called cracking processes used in the manufacture of gasoline; that on March 4, 1930, the Federal Oil Conservation Board wrote to the governors of various states, including the State of California, a letter as follows:

Curtailing Refining

" 'The Federal Oil Conservation Board would like to call to your attention the existing situation in regard to the refining of crude oil, since it seems desirable to point out to the refineries of the country the advantages that would accrue from Sunday closing. At the present time the stocks are higher than they have been since 1927, while the domestic demand is only up to the level of 1928. In other words, the increased efficiency in the cracking of oil, combined with the seven-day week, is increasing gasoline stocks to a level where there will be a large element of waste. Therefore, the Federal Oil Conservation Board wishes to suggest that the refining of petroleum could well be brought to the normal basis of a six-day week.

" 'If you feel that you can be helpful in calling this to the attention of those interested in your state, it would be appreciated';

"that this defendant, together with other persons and corporations engaged in the petroleum business have endeavored from time to time to promote the conservation of crude oil and its products; that pursuant to the suggestion and request of the properly constituted authorities of the States of California and Texas and of the Federal Oil Conservation Board and other federal authorities, it has from time to time entered into agreements with other persons and corporations engaged in the production, manufacture and distribution of gasoline having for their purpose the conservation of the natural resources of the United States and of the States of California and Texas, in both of which states this defendant, by itself and its subsidiary corporations, is engaged in the production, manufacture and distribution of gasoline; that at the instance of the authorities aforesaid, and particularly of the Federal Oil Conservation Board, this defendant, together with others of the defendants and other persons and corporations, has from time to time consummated and entered into curtailment agreements having for their purpose and effect the limitation of the production of crude oil so that the same might not be developed in wasteful quantities and by a wasteful duplication of wells and facilities, and has entered into agreements with others of the defendants and other persons and corporations having for their purpose the curtailment of the waste of natural gas in the State of California and the modification of the wasteful production of crude oil and has likewise entered into agreements to promote sound practices in the marketing of refined products of petroleum and particularly of gasoline and to prevent unfair competition and unfair marketing methods; that this defendant has no agreements with any other defendant affecting or relating to the marketing of gasoline except as in this answer hereinbefore enumerated."

Refugio, Tex., Pool Gets Boost in Price From Humble O. & R.

HOUSTON, Tex., Apr. 1.—The Humble Oil & Refining Co. posted a new price, or schedule of prices, on crude produced in the Refugio Field in Refugio County, which is a considerable increase over the prices that have prevailed.

Heavy gravity crude (below 25°) has been increased from 55 cents per barrel to 75 cents per barrel and light Refugio crude (25° up to 44°), which has been receiving a flat price of 96 cents per barrel has been put on a gravity basis with a minimum of 93 cents per barrel for crude of 25-25.9°, with a 3-cent increase for each degree up to 38-38.9° which is posted at $1.32 cents, and a 2-cent increase for each degree above 38.9, ending with 44° and above at $1.44. The Humble Oil & Refining Co. also added to its Grade B gravity schedule, extending the grades up to 44° and above. This makes the Humble's Refugio and Grade B price and gravity schedules alike, virtually placing Refugio in the Grade B, or coastal light oil, list.

The Humble Oil & Refining Co. posted a price of $1.30 per barrel for Pettus crude, produced in Bee County, and placed Ector County crude in the same schedule as Crane, Upton and other West Texas crudes bought on a gravity basis.

The Humble Pipe Line Co. has completed its line from the Humble Field to Baytown, a distance of 20 miles, and the change in its Grade B price schedule followed the completion of the line.

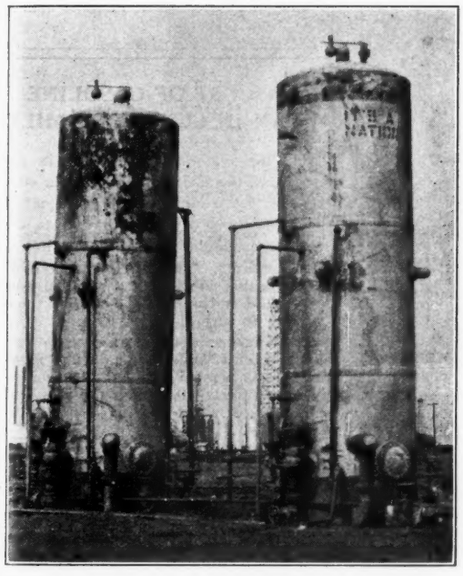
R. E. HILEMAN DIES

Robert E. Hileman, 61 years old, for 19 years connected with the oil industry in the Mid-Continent Field and since 1918 with the Cosden Pipe Line Co. as superintendent of pipe lines, died March 31, following a six months' illness.

Another Interesting Test of

NATIONAL SEPARATORS

Can You Equal this Performance With Any Other Equipment?



Kinter No. 1
Oklahoma City Field

The Kinter No. 1 Well Oklahoma City Field

When this well came in during June, 1929, for about 75,000,000 cu. ft. of gas it was turned into one No. 1 (old style) National Separator. It produced 1200 barrels of 64 gravity gasoline for a few days through this one separator and later a No. 1-A National was also installed. At 110 lbs. pressure on both Separators the well produced from 1650 to 1800 barrels of gasoline per day, leaving only about .10 gallons of gasoline per 1000 cu. ft. of gas handled.

Later the gas from this well was used as fuel for other drilling operations.

A No. 4-A National, 500 lb. Working Pressure, Separator was installed and from 300 to 400 barrels of gasoline per day were produced along with almost 20,000,000 cu. ft. of gas.

In November this well was shut in for deeper drilling and when opened up again in January it was turned into three Separators of another make.

In February two No. 1-A Nationals were installed with equipment for handling automatically (as illustrated), from the 72,000,000 cu. ft. of gas they are now saving automatically, without any manual operation whatsoever — furthermore without freezing of any kind—from 1020 to 1150 barrels of 64 gravity crude.

Mid-Continent Distributors of
Lorraine Corp. Equipment
Lorraine Sucker Rod Racks
Lorraine Dual Controls for Oil and Gas Separators.

Further information on this test will be gladly furnished on request. Watch this publication for data on other performances of National Separators in this the greatest of all Mid-Continent Fields.

Of Interest to Sales Departments

PRICES ON MOST EXPORTED OILS LESS THAN IN 1929

WASHINGTON, D. C., Mar. 31.—Monthly average prices of petroleum and products exported by the United States in January, 1930, are given in a supplemental statement issued by the Bureau of Foreign Commerce to its monthly summary showing the trend of the American trade. The prices of exported articles are based on the actual cost or the value of the articles at the time of exportation at the ports from which shipped.

In January, 1930, the value of crude petroleum exported was $1.38 compared with $1.47 per barrel in December, 1929, $1.52 in November and $1.34 in January, 1929. For the calendar year 1929 the average price of crude oil exported was $1.43 per barrel.

Gasoline, naphtha, etc., exported in January, 1930, was valued at $4.37 per barrel; December, 1929, $4.26; November, 1929, $4.47; January, 1929, $4.72. The average value during the calendar year 1929 being $4.45 per barrel.

Kerosene or illuminating oil exported in January, 1930, was valued at $3.88 per barrel and in December, 1929, $3.96; November, 1929, $4.19; January, 1929, $4.04, and for the calendar year 1929 the average value was $4.23 per barrel.

Lubricating oil exported in January, 1930, was valued at $9.14 and in December, 1929, $9.81; November, 1929, $11.03; January, 1929, $8.56, and for the calendar year 1929 the average value of lubricating oil exported was $9.66 per barrel.

Paraffin and paraffin wax was valued .040 cent in January, 1930, December, 1929, and November, 1929, the price in January, 1929, being .053 cents per pound. During the calendar year 1929 average value of paraffin and paraffin wax exported was .044 cents per pound.

NEW BULK PLANT

CHICAGO, Mar. 31.—Huling & Minster, a new firm of distributors in this city are building a large bulk plant in the northwestern part of the city locally known as Tessville. The concern will distribute Barnsdall products in this city and vicinity. The plant is in the neighborhood of the bulk plant of the Conoco Oil Co. and of the Shure-Fire Petroleum Co., both of recent construction.

SPANISH SALES INCREASE

NEW YORK, Mar. 31.—The Spanish Petroleum Monopoly marketed a total of 2,730,157 bbls. of gasoline during 1929, an increase of more than 25 per cent over sales during the previous year.

More than 50 per cent of this gasoline came from Russia, the balance being from the United States, where Cities Service Export Oil Co. and American Republics handle the monopoly's purchases.

RUMANIAN EXPORTS

Exports of refined petroleum products from Rumania during 1929, according to "Moniteur de Petrole Romain," totaled 20,071,768 bbls. Exports by products follow:

(Barrels of 42 gallons)	
Gasoline	6,813,866
Kerosene	6,040,280
Lubricating oil	437,142
Gas and fuel oil	6,733,599
Wax	27,816
Miscellaneous	19,065

Italy, England, Egypt, France, Germany, Hungary and Austria, in the order named, were the principal buyers of Rumanian oil products the last year.

STANAVO BOARD WILL ANNOUNCE AVIATION SPECIFICATIONS SOON

NEW YORK, Mar. 29.—Stanavo Specification Board, Inc., organized last year by the Standard Oil Co. of New Jersey, Standard Oil Co. of Indiana and Standard Oil Co. of California, has made material progress in the development of standardized petroleum products for aviation use, and is expected to announce shortly specifications for a uniform, high grade antiknock airplane gasoline.

While the advent of Stanavo Specification Board into the field last year aroused considerable interest in the oil industry, there has been little information obtainable regarding its activities, due to the fact that up to the present time the work of the board has been largely along experimental and organization lines.

After exhaustive research the Stanavo Board adopted specifications for four grades of lubricating oil for aircraft engines—namely, Stanavo Aviation Engine Oil Nos. 80, 100, 120 and 140. The grade numbers designate the nominal Saybolt viscosities of the respective oils at 210° F.

While at the outset the activities of the board and the sale of its standardized products was confined to the three companies above mentioned, material progress has since been made in obtaining national and world-wide recognition of the board's standards and distribution of its products. Besides the three parent companies, Stanavo Aviation engine oil is now sold by the following companies in the United States: Standard Oil Co. of Kentucky, Standard Oil Co. of Louisiana, Standard Oil Co. of Nebraska, Standard Oil Co. of Ohio, Standard Oil Co. of Pennsylvania, Beacon Oil Co., Inc., Humble Oil & Refining Co., Midwest Refining Co., Pasotex Refining Co., and the Refiners' Oil Co. In Canada Stanavo products are sold by Imperial Oil, Ltd., and throughout Latin America distribution is made by the Standard Oil Co. of Brazil, Standard Oil Co. of Cuba, and the West India Oil Co.

Stanavo products are made available in Europe through the agency of 11 companies affiliated with the Standard Oil Co. of New Jersey and arrangements have also been made whereby Stanavo products are available at other points, giving a world-wide distribution never before attained by any uniform aviation gasoline or lube oil sold under one brand.

Specification Board

The work of the Stanavo Specification Board is primarily along scientific lines, bringing together the results of research carried on in the laboratories of the three parent companies. The board requires a rigid adherence to the specifications by the member oil companies, and also requires that lubricants bearing its name be marketed in sealed packages.

Stanavo Specification Board is composed of two members from each of the parent companies. The members of the board are Dr. J. B. Terry and Capt. S. S. Chadderton of the Standard Oil Co. of California; H. J. Saladin and Dr. D. P. Barnard of the Standard Oil Co. of Indiana, and D. C. Jennings and Maj. E. E. Aldrin of the Standard Oil Co. of New Jersey. These men are all prominent in the petroleum industry as experts on

Maj. E. E. Aldrin

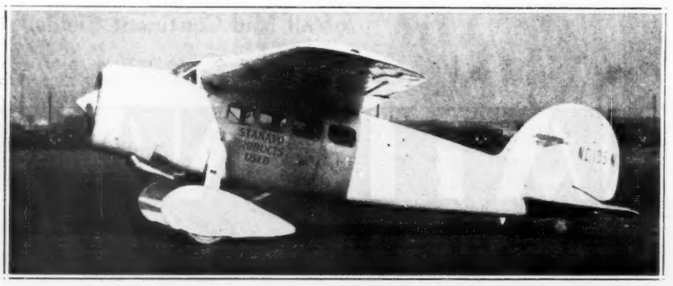
In charge of aviation activities of the Standard Oil Co. of New Jersey and vice president of the Stanavo Specification Board, Inc.

problems of powering and lubricating aviation engines.

Present efforts of the board, it is understood, are centered on the development and marketing of a uniform, high grade antiknock aviation gasoline. A recent symposium by "Aviation," a leading aeronautical magazine, showed that the leading aviation engine manufacturers and designers are in almost unanimous agreement in favoring better fuel even at higher cost. This reaction was in answer to the question submitted by that publication: "Are you in favor of a marked improvement in the standard fuel as governed by specifications, increasing its uniformity and its antidetonant qualities, with the object of permitting increases in compression ratio and brake mean effective pressure and of decreasing weight and frontal area?"

The board has already decided upon tentative standards for a uniform quality of aviation gasoline, it is understood, but pending further developments and re-

(Continued on Page 150)



Lockheed-Vega, Wasp powered plane used by Stanavo Specification Board, Inc., as a "flying laboratory." This is the plane which made the record New York-Buenos Aires flight last month.

RADIO IN AUTOMOBILE WILL AID CONSUMPTION

The oil business should do everything possible to encourage the installation of radios in automobiles, writes a "gasoline salesman" to The Oil and Gas Journal.

The salesman feels the millions of radios now installed in homes, hotels, etc., have tended to keep the automobile owner off the highways during his leisure time. This situation will be remedied, he points out, when every car has its radio and the owner can get out into the country away from trolley lines, telephone lines and other city conveniences commonly associated with static in radio operation.

SHOW COST OF GASOLINE TAX IN CENTS PER MILE

Gasoline taxes now in effect in all states and the District of Columbia cost the motorist from 1 cent every 2 miles to 1 cent every 6 miles according to an estimate made by the American Petroleum Institute. The lowest cost applies when the tax is 2 cents per gallon and the highest is based on a 6-cent tax now effective in several states.

The data are based on an average consumption of 12 miles per gallon of gasoline. It is pointed out that the average motorist travels 6,000 miles per year and thus he pays a tax varying from $10 to $30 yearly.

The following table gives cost per mile:

Taxes—		Tolls		
2 cents	1 cent	every	6	miles
3 cents	1 cent	every	4	miles
4 cents	1 cent	every	3	miles
5 cents	1 cent	every	2.4	miles
6 cents	1 cent	every	2	miles

EXPANDS IN NORWAY

NEW YORK, Mar. 31.—Expansion of the marketing operations of Standard Oil Co. of New Jersey in Norway is indicated by recent capital increases on the part of a number of subsidiaries of the New Jersey company in that country.

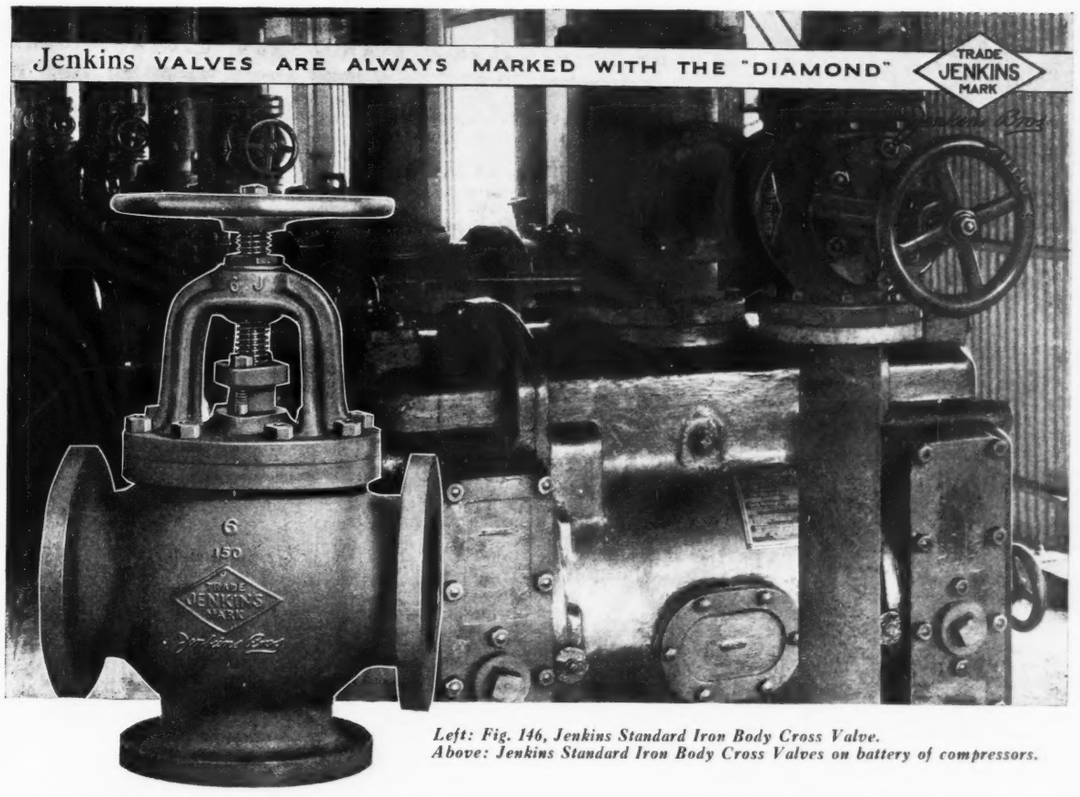
Norsk-Amerikansk Petroleum Co. A/S is increasing its capital from 500,000 crowns to 625,000 crowns. Vallo Oljeraffineri is increasing its capital from 2,500,000 to 3,750,000 crowns. A/S Vestlandske Petroleum Co.'s capital is being increased from 5,100,000 to 6,936,000 crowns, and A/S Oesterlandske Petroleum Co. from 4,800,000 to 6,000,000 crowns.

The increases in capital have been made to increase plant capacities and provide additional working capital.

AMERICAN BUYS PENN OIL

American Oil Co., with headquarters in Baltimore, has acquired the business and property of the Penn Oil Co. of Washington, D. C. The American Oil Co. is a subsidiary of Pan American Petroleum & Transport Co.

The transaction, which involved approximately $3,750,000, adds to the American company's chain the 67 Penn service stations located in Washington, D. C., Maryland and Virginia, in addition to bulk terminals operated by Penn. The Penn chain will be added to that of the Lord Baltimore Filling Stations, a subsidiary of American Oil Co.



Left: Fig. 146, Jenkins Standard Iron Body Cross Valve.
Above: Jenkins Standard Iron Body Cross Valves on battery of compressors.

For natural gas...a natural choice

Controlling the flow of natural gas calls for an iron body valve with an iron constitution.

It was a natural choice, therefore, when the Powers Gasoline plant in the St. Louis field in Oklahoma, selected Fig. 146, Jenkins Standard Iron Body Cross Valves for service on the battery of Bessemer compressors shown above. It is the duty of these sturdy Jenkins to control the flow of casinghead gas into the compressor ends of this equipment.

On the toughest valve job you can install a Jenkins with the assurance that it will do its work well and unfalteringly for a long period. There is a Jenkins oil-tested valve for every petroleum service, in bronze or iron, in standard, medium or extra heavy patterns. Obtainable through your supply house.

JENKINS BROS.

80 White Street, New York, N.Y. 133 No. Seventh Street, Philadelphia, Pa.
524 Atlantic Avenue, Boston, Mass. 646 Washington Boulevard, Chicago, Ill.
JENKINS BROS., Limited, Montreal, Canada; London, England
Factories: Bridgeport, Conn., Elizabeth, N. J.; Montreal, Canada

Jenkins
VALVES
Since 1864

EASTERN FIELDS

(Continued from Page 80)

same district, James Deem & Co. have the same kind of a pumper in the Salt sand on the Griffin heirs' farm.

Calhoun County

In Center district, Calhoun County, W. H. Bickel has a duster in the Big Injun sand on the Jasper Elliott farm. In the same district, L. P. Bickel's second test on the Stump heirs' farm is a duster. In Lee district the United Fuel Gas Co. has a duster at a test on the Carr Shaffer farm. In Sherman district the Hope Natural Gas Co. has a fair gasser on the J. B. Huffman farm. In Lee district, F. F. McIntosh has a good gasser at No. 2 on the J. Duskey farm.

On Devil Hole Creek, Grant district, Ritchie County, Park Bowser has a small Keener sand gasser at a second test on the Howard Cunningham farm.

In Central district, Doddridge County, J. D. Foley has completed in the Big Injun sand a test on the Cisco Dotson farm. It is a natural producer good for 5 bbls. a day. In the same district, Wilson & Broadwater have a gasser on the Arthur Yeater farm. In Union district, Lincoln County, the Russell Gas Co. has a gasser in the Berea grit on the M. A. Stump farm.

Wood County

In Williams district, Wood County, Gordon & Ekas have a gasser in the Macksburg sand on the Elizabeth Richardson farm. In Grant district, Ritchie County, John Starcher's No. 5 on the Mary E. Metz farm is a very light pumper in the Maxon sand. In Murphy district, W. H. Bickel has a gasser in the Maxon sand at a second test on the Zack Weinerick farm.

In Geary district, Roane County, the Richard Elkins estate has drilled an old well on the James Cottrell farm into the Big lime. It is a fair gas well. In Sheridan district, Calhoun County, Godfrey L. Cabot has completed in the Berea grit a test on the G. W. Dye farm. It is dry and has been abandoned.

On Nettle Run, Burning Springs district, Wirt County, Roberts Brothers have a rig completed on the Rathbone oil tract. In Sherman district, Boone County, the Pure Oil Co.'s Nos. 30 and 39 on the Lafollette, Robson & Prichard tract are good for 15 and 5 bbls., respectively, in the Berea grit.

Drilling a Wildcat

In Mead district, Upshur County, the Union Gas Corp. is drilling on the G. W. Simons farm. In Troy district, Gilmer County, the Gilco Oil & Gas Co. is due in the sand on the Ernest Woofter farm. In Liberty district, Marshall County, the Valley Run Oil & Gas Co. has material at a location on the Sterm Brothers farm. In Williams district, Wood County, Athey Brothers are drilling on the Susan Athey farm. In Grant district, Ritchie County, the Warrior Petroleum Co. is drilling on the Cornelia Storrs farm. In Sheridan district, Calhoun County, the Conservation Oil & Gas Co. is rigging up on the James Kerby farm. In the same district the Hope Natural Gas Co. has started to drill on the E. E. Wilson farm.

Roane County

Roane and Calhoun Counties are the most active in test work of any in West Virginia. In Curtis district, Roane County, the Reedy Oil & Gas Co. has shut down to test for oil on the S. M. Bickel farm. In Smithfield district, the United Fuel Gas Co. is rigging up on the W. L. Deverick farm. In Reedy district, the Heck Oil Co. is rigging up at a second test on the Rebecca Kincaid farm. In Center district, Calhoun County, the Hope Natural Gas Co. is rigging up on the C. F. Hosey farm. In Sheridan district, the Chemical Oil Co. has started to drill on the A. T. Yoke farm. In Washington district, the Hope Natural Gas Co. has shut down to test for oil on the J. C. Carpenter farm. In DeKalb district, Gilmer County, C. V. Maloney is rigging up on the Craddock-Hardman farm.

In Union district, Wood County, Charles Smith is rigging up on the Blaine Casteel farm. In the same district and county, the Mills Oil Co. is rigging up on the D. F. Funham farm. In Grant district, Ritchie County, the Mid-Penn Oil Co. is drilling deeper No. 8 on the G. T. Layfield farm. In the same district, the New York Petroleum Co. is drilling deeper No. 1 on the E. Stephens farm.

In Freeman Creek district, Lewis County, the Reserve Gas Co. has the rig completed for another test on the Flora Camden farm. In Henry district, Clay County, the South Penn Oil Co. has completed a rig on the B. Skyles No. 2 farm. In Jefferson district, Lincoln County, the Mud River Gas Co. has started to drill on the Eliza Adkins farm. In Ellsworth district, Tyler County, the Reno Oil Co. has started to drill on the D. H. Tallman farm. In Union district, Morgan Brothers have started to drill on the J. B. Dancer farm.

On Trace Fork, DeKalb district, Gilmer County, C. B. Lewis has the rig completed for a second test on the Saphrona Amos farm. In Sheridan district, Calhoun County, the Chemical Oil & Gas Co. has the rig completed for a second test on the A. T. Yoak farm. In Cass district, Monongalia County, the Greensburg Gas Co. has started to drill on the J. M. Garlow farm. In Scott district, Boone County, the Owens Bottle & Machine Co. has a rig up on the Silvester farm. In Union district, Lincoln County, the Woodyal Gas Co. is drilling on the R. L. Stowers farm.

PETROLEUM POSSIBILITIES IN STATE OF TENNESSEE

(Continued from Page 42)

there, has possibly long since escaped. Numerous oil and gas seeps have been reported to occur along Sequatchie Valley adjacent to the fault and sharp fold where Mississippian rocks are exposed. These seeps indicate the presence of oil and gas in the rocks underlying the plateau.

Sequatchie Valley

In Sequatchie Valley the Knox dolomite, which stratigraphically lies below any known oil or gas-producing beds in this region, is exposed by Sequatchie River. Folding and faulting of the strata, and the fact that the beds most likely to contain oil in paying quantities outcrop on the hillsides above the valley, make this area unfavorable for the occurrence of oil and gas in pools of commercial size. Areas within 5 or 10 miles of the valley are probably not favorable territory.

Highland Rim Area

The Highland Rim area encircles the Nashville Basin and represents the flanks of the eroded Nashville Dome, a southward extension of the Cincinnati Arch. This area is probably the most favorable oil and gas territory in Tennessee. The section of rocks includes several oil-bearing horizons which lie at shallow depths, and the flanks of the major structure have been folded into numerous minor flexures which form excellent reservoirs for the accumulation of oil and gas.

Eastern Highland Rim

A large portion of the oil produced in Tennessee has come from the northeastern Highland Rim in Clay, Pickett, Overton and Fentress Counties. Several hundred wells have been drilled in this area and several small oil fields developed. In recent years most of these fields have been abandoned for one reason or another. Many of the wells have gradually gone dry, due largely to poor management. A few have shown that with proper treatment they may be long-lived small producers.

The Chattanooga "black" shale outcrops in the sides of the valleys that cut back into the Highland Rim and forms an excellent key bed for surface structure mapping. The hills are capped by rocks of Mississippian age and the streams have cut down into the upper limestones of the Ordovician. From 485 to 550 feet below the Chattanooga shale occurs a bed of green clay, 1 to 3 feet thick, commonly called "Pencil Cave" or "Bentonite." This horizon can be readily recognized by drillers because of the bright green color and tendency to stick the tools. The bed makes an excellent marker for subsurface correlations. The oil horizons, porous and fractured zones in Ordovician limestones, are found at about 250 feet below the Chattanooga shale, at about 20 feet above the "Pencil Cave," from 10 to 250 feet below the "Pencil Cave," and a few deep tests have found good showings about 800 feet below the "Pencil Cave." There are numerous other stray sands due to local porosity in the limestone formations.

Overton County

In 1929 a deep test was made in Overton County, 5 miles south of Livingston. The Chattanooga shale was drilled at 400-435 feet and "Pencil Cave" reported at 880 feet. A good showing of oil was found at 1,742 feet and at 2,010 feet oil and salt water rose 500 feet in the well. A complete record of the well was not obtained by the Tennessee Division of Geology but cuttings from 1,760 feet are undoubtedly of Knox dolomite. A second well was recently started in this area.

From a careful study of this area Lusk found that structure plays an essential part in the accumulation of oil and gas in this region. He concludes that "not all of the favorable structures drilled have produced oil, but all of the definitely unfavorable ones have been failures." The domes and anticlines found in the Highland Rim area are seldom larger than 2 or 3 miles in their greatest dimension. The inserted table gives the more important data found in wells drilled in the eastern Highland Rim area.

The city of Cookville, Putnam County, is now being furnished natural gas from five shallow wells which apparently tap a dome or terrace about 2 miles west of the town. The surface rocks in this area are clay and disintegrated cherty limestone beds of Mississippian age which make surface mapping very difficult. The gas comes from fractured Ordovician limestone 150-300 feet below the Chattanooga shale. Another well has recently been started in this field.

Some 25 wells drilled in Warren County have encountered considerable gas in porous limestone horizons at shallow depths. In these wells the Chattanooga shale occurs at depths from 167 to 337 feet and the gas comes from Ordovician limestones from just below the shale to 820 feet. Producing wells in this area are furnishing gas for heating purposes in McMinnville, the county seat. An oil-bearing horizon was also reported in one well at a depth of 1,348 feet, 1,162 feet below the Chattanooga shale and 784 feet below the "Pencil Cave."

In Coffee, Franklin and Lincoln Counties, in the southern part of the eastern Highland Rim area, several wells have shown the presence of considerable gas and some oil. A recent test in Winchester, Franklin County, struck the Chattanooga shale at 190 feet and six distinct gas horizons were reported from 340 to 980 feet. A strong flow of salt water was encountered at 1,476 feet. In a well near Decherd, same county, the Chattanooga shale was found at 180-195 feet, seven gas horizons were reported, and considerable oil found at 1,395 feet. Recent investigations show the presence of rather large anticlinal structures in this area and the occurrence of definite key beds in the Mississippian aid surface structure mapping.

Recent detailed study of parts of southern Lincoln County[2] has added to the evidence that wells carefully located in respect to structural conditions may be expected to produce. Two wells recently drilled in Fayetteville, Lincoln County, found considerable gas at depths of 265 feet (170 feet below the "Pencil Cave"), and 310 feet (175 feet below the "Pencil Cave"), respectively. Wells in other parts of this county have encountered considerable gas and some oil at depths to 900 feet. A well is now being drilled in the western part of the county, near Blanche, on a well-defined dome.

Systematic prospecting in the southeastern Highland Rim area will probably show the presence of numerous small structures favorable for oil and gas accumulation. Several such structures are shown on the Hollow Springs and Crossville quadrangles.

Northern Highland Rim

Several wells drilled in the northern Highland Rim area show the presence of oil and gas. In northeastern Sumner County wells located following detailed mapping of the area produced daily 5 to 25 bbls. of 32° Be. oil from sandy, dolomitic layers in the Silurian limestones which underlie the Chattanooga shale from 68 to 80 feet and occur 218 to 250 feet beneath the surface. Some 20 other wells in the county, drilled irrespective to structural conditions, were dry. A well drilled to a depth of 445 feet on Long Fork Creek, eastern Macon County, encountered several gas pockets each with sufficient pressure to blow the tools from the hole. Other wells in this area have found considerable gas and showings of oil at comparatively shallow depths. It seems highly probable that oil and gas will be found in commercial quantities in this area if test wells are located on favorable structures.

Western Highland Rim

The western Highland Rim includes that area lying between the Tennessee River on the west and the Nashville Basin on the east. In this area the depth to the producing horizons in the Ordovican is increased somewhat by the addition to the section of a variable thickness of Silurian and Devonian strata. Several wells drilled in this area have shown the presence of oil and gas in considerable quantities. A group of wells drilled about 1866-70 on Jones Creek, eastern Dickson County, reported gas at about 190 feet and oil at about 300 feet. These wells started near the base of the Chattanooga shale. Between 200 and 300 bbls. of this oil were shipped by rail to Nashville, where the oil was refined and sold. The oil was said to have a specific gravity of about 40° Be.

In 1929 a well was drilled within a few hundred feet of the above wells. This well was started at the base of the Chattanooga shale, struck "Pencil Cave" at 525 feet, and reported a good show of oil and salt water from the upper edge of the Knox dolomite at 1,250 feet. The salt water rose to within 10 feet of the surface.

Two wells drilled at Cumberland Furnace, northern Dickson County, in 1919, penetrated the Chattanooga shale at 485 feet and 369 feet and reported strong showings of oil and gas from just below the shale. These wells are 1,067 feet and 1,166 feet deep, respectively, and are now standing open and full of oil and water.

In the southern part of the area the limestones become less porous and thus reduce the chances for the presence of oil and gas in large quantities. Several wells in Wayne County have encountered showings of oil and gas, but neither has been produced from that county. Several well-defined domes and terraces have been mapped by Miser in Wayne County. In December, 1929, a deep test was started on a pronounced surface doming about 8 miles east of Waynesboro.

Dunbar reports that the structure along the western edge of the Highland Rim area appears favorable for the accumulation of oil and gas, but finds that the texture of the rock underlying the area, as far as seen, is not favorable for the formation of reservoirs.

The most favorable portion of the western Highland Rim area apparently lies north of Duck River and near the edge of the Nashville Basin.

The Nashville Basin is structurally a large dome which represents a southward extension of the Cincinnati Arch. This doming centers at or near Murfreesboro, Rutherford County, Tennessee. Dense limestones of the Stones River group, of Ordovician Age, outcrop in the center of the basin. Rocks of Trenton age underlie only the outer edge of the basin at the foot of the Highland Rim. At several places within the basin the "Pencil Cave" horizon is exposed. No oil or gas has been found in the central portion of

[2] A study of the oil and gas and structural conditions of parts of southern Lincoln County was made during the summer of 1928 by M. G. Mehl for the Tennessee Division of Geology. Report in preparation. Structure maps now available.

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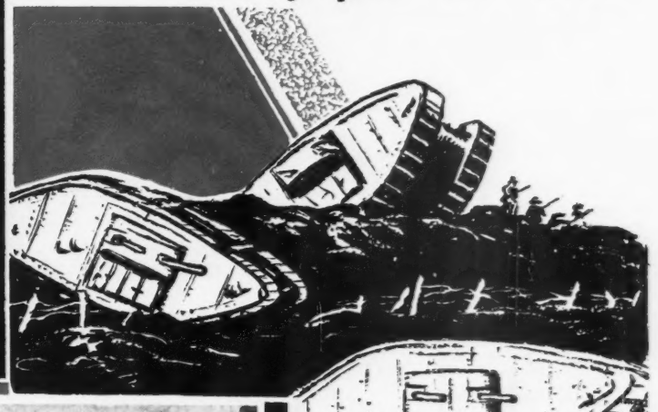

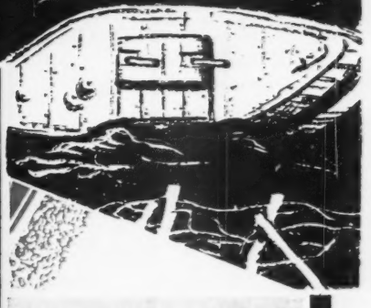

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the basin. A well at Murfreesboro was drilled in 1928 to a depth of 2,100 feet and found only an abundance of fresh-probably surface, water. The lower 1,600-1,700 feet of this drilling was probably in Knox dolomite.

Showings of oil have been obtained from numerous shallow wells in the Hermitage formation (Trenton) on the edge of the basin. Several of these wells, originally drilled for water, have been turned into small gas wells for local individual use. It is thought that drilling on favorable structures located at the edge of the basin might develop small producers, but the area lying within the outcrop of the Hermitage limestone is probably not favorable territory. During 1929 a well was drilled at the edge of the basin in southwestern Davidson County, 12 miles from Nashville. Starting 130 feet below the Chattanooga shale, the "Pencil Cave" was struck at 360 feet, and Knox dolomite reached at 1,020 feet without having had a sign of oil or gas. At 1,120 feet a flow of slightly salty water was struck which rose 800 feet in the well. The well was apparently off structure.

West Tennessee

The geology of West Tennessee differs greatly from that of the central and eastern portions of the state. The Paleozoic rocks which outcrop in the western Highland Rim dip toward the west at a rate not more than 20 feet to the mile and lie at a depth of 2,000 to 3,000 feet at the Mississippi River. They are covered by a thick series of semiconsolidated sand, gravels and clays of Cretaceous and Tertiary ages.

In this section of strata occur several sand formations which might make excellent reservoirs for the accumulation of oil and gas. The best of these is probably the Eutaw sand, lowest of Cretaceous formations in Tennessee. It is also probable that the formations of this area contained enough organic matter at the time of their deposition to produce a good supply of oil and gas. The remaining necessary feature is that of favorable structural conditions. The unconsolidated nature and variability in character of the sediments make surface structure mapping very difficult. Until enough wells are drilled in a relatively small area to obtain data for subsurface mapping each well will be a wildcat proposition.

In 1920 several dry wells were drilled in the area around Reelfoot Lake. These were carried to depths of 1,075 to 2,075 feet, the deepest of which stopped in the Selma formation, of Cretaceous age. Just across the Kentucky boundary, in Fulton County, the Bondurant well was carried to a depth of 3,180 feet. The base of the Cretaceous was reported by the Kentucky Geological Survey at 2,120 feet. The depth to the base of the Mississippian in this area has been estimated by the above survey at 4,300 feet.

A well near Huntingdon, Carroll County, Tennessee, started in Porters Creek formation (Midway) and encountered the Eutaw sand at 785 feet. The well was dry and lost at 800 feet.

Wells drilled at Memphis found considerable gas and some oil at depths from 300 to 1,800 feet. Glenn correlates a depth of 1,147 feet in Memphis well No. 109 to be down 121 feet in the Porters Creek clay. A water well drilled by the City of Memphis in 1927-28 to a depth of 2,600 feet was still in sand and clay and although the log is too poor to correlate with any degree of certainty it is probable that the well was still several hundred feet above the Paleozoic rock floor.

During 1929 two wells were drilled on a large dome known as the "Dunbar structure" in southern Decatur County. These wells started in limestones of Silurian age. The "Pencil Cave" formation was not found in either well. The top of the Knox dolomite was reached at about 900 feet. The deeper of the wells reported a show of oil at 1,127 feet.

It is quite possible that reservoirs containing considerable oil and gas somewhere underlie the Plateau Slope of West Tennessee. Magnetometer surveys have indicated "highs" in several places, although little detailed work of this nature has as yet been done in Tennessee. Wells drilled in this area should not be stopped before they reach the old Paleozoic gulf embayment floor. The Devonian, Silurian and Ordovician rocks, if present under this embayment floor, also offer possibilities for oil and gas.

Conclusions

This summary of the geology and structure of Tennessee brings to our attention the fact that there are within the State several areas in which conditions seem favorable for the occurence of oil and gas in commercial quantities.

The most favorable areas in the State are probably those included within the Cumberland Plateau, Highland Rim and Plateau Slope of West Tennessee.

The Unaka Mountain range, Great Valley of East Tennessee, Sequatchie Valley, and inner Nashville Basin can be definitely classed as unfavorable areas.

Oil or gas has been found in 22 counties in Tennessee, and has been produced on a commercial scale from Scott, Morgan, Clay, Pickett, Fentress, Jackson, Putnam, Warren, Dickson and Sumner Counties.

Additional drilling in favorable areas, preceded by careful detailed mapping, will undoubtedly discover new wells and new pools of commercial value.

ANNOUNCE AVIATION SPECIFICATIONS SOON

(Continued from Page 146)

search work these specifications will not be made public. It is reported, however, that the new motor fuel has already proven highly successful in tests.

Establish Records

Records for elapsed time and actual flying time between New York and Buenos Aires were established last month by Lieutenants Will W. White and Clement McMullen in a test flight utilizing Stanavo gasoline and engine oil. The flyers left New York February 14 and arrived at Buenos Aires on the afternoon of February 19. The actual flying time was 52 hours and 15 minutes and the elapsed time five days and five hours. Stops for checking equipment, refueling and rest were made at Miami, Panama, Talara, Lima, Arica and Santiago. The average speed for the 6,870 miles was 131 miles per hour.

The flight was made in a Lockheed-Vega plane which has seen considerable service as a virtual flying laboratory for Stanavo.

The plane was powered with a Pratt & Whitney Wasp on its record flight to Buenos Aires and fueled with Stanavo aviation engine oil and Stanavo gasoline for the entire flight. Radio communications were maintained through the facilities of the Pan-American Airways, Inc., which loaned special equipment. The same Lockheed airplane and Wasp engine, which performed perfectly throughout this trip, had already covered more than 50,000 miles when Lieutenants White and McMullen started their South American record flight. The plane was purchased originally by the Standard Oil Co. of New Jersey and was flown extensively in this country, as well as in Europe, by Maj. E. E. Aldrin, head of the company's aviation activities. Last fall when the Standard Oil Co. of New Jersey, together with the Indiana and California Standard companies, formed the Stanavo Specification Board, Inc., with Major Aldrin as vice president, the airplane was turned over to the new organization for use in testing fuel and lubricants it was developing.

RESIGNS FROM BOYLE COMPANY

CHICAGO, Mar. 31.—E. J. McGonigle has resigned as secretary-treasurer of the Boyle Oil Co., a local jobbing concern with headquarters at 1536 Garfield Boulevard. Mr. McGonigle plans to return to the refinery sales branch of the industry. He was last connected with the Burford Oil Co., and previously with the Shaffer Oil & Refining Co., and the Mid-Continent Petroleum Corp., at its Chicago office.

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE
Week Ending March 19

Carson County

Phillips Petroleum Co.'s No. 1 M. B. Pickens, 330 feet south and 990 feet west of NE cor. NE, Section 31, Block 7, I.&G.N. Survey. Shamrock Oil & Gas Co.'s No. 1 M. C. Thompson, 330 feet north and east of SW cor. E 80 acres NE, Section 15, Block 7, I.&G.N. Survey.

Empire Gas & Fuel Co.'s No. 1 A. F. Bennett, at the C SE of Section 6, Block 5, B.&B. Same company's No. 23 S. B. Burnett, at the C NE of SW of Section 25, Block 5, I.&G.N. Same company's No. 2 G. W. Deahl, at the C NW of Section 25, Block Y-2, G.B.&C.N.G.R.

Gray County

Gulf Production Co.'s No. 6-A P. A. Worley and others, 240 feet west and 330 feet south of NE cor. SW, Section 36, Block 3, I.&G.N. Survey. Danciger Oil and Refining and Champlin Refining Co.'s No. 4-A Cook-Faulkner, 350 feet south and 1,146 feet west of the northeast corner of their 120-acre lease out of Section 30, Block B-2, H.&G.N. Survey. Empire Gas & Fuel Co.'s No. 1 A. C. Shields, 330 feet north and west of SE cor. NE, Section 151, Block 3, I.&G.N. Survey. McIlroy Oil Co. and others' No. 1 J. C. Vallmert, 330 feet north and east of SW cor. NW, Section 140, Block 3, I.&G.N. Survey. Magnolia Petroleum Co.'s No. 5 S. Faulkner, 330 feet north and west of SE cor., Section 30, Block B-2, H.&G.N. Survey. Same company's No. 6 S. Faulkner, 330 feet south and west of NE cor., Section 29, Block B-2, H.&G.N. Survey. Phillips Petroleum Co.'s No. 1 Combs & Worley (J. Foxx), 330 feet south and east of NW cor. NE, Section 36, Block 3, I.&G.N. Survey. Same company's No. 2 Combs & Worley (J. Foxx), 330 feet north and east of the SW cor. W half NE, Section 36, Block 3, I.&G.N. Survey. Prairie Oil & Gas Co. and others' No. 1 P. A. Worley and others, 330 feet south and east of NW cor. NW, Section 36, Block 3, I.&G.N. Survey. Same company's No. 2 P. A. Worley and others, 330 feet south and west of NE cor. NW, Section 36, Block 3, I.&G.N. Survey. Wilcox-Pampa Oil Co.'s No. 13 Combs & Worley, 330 feet south and west of NE cor., Section 37, Block 3, I.&G.N. Survey.

Panhandle Refining Co.'s No. 4 G. H. Saunders, 990 feet north and 330 feet east of SW cor. of E half of NE Section 3, Block 1, A.C.H.&B. Shamrock Oil & Gas Co.'s No. 4 G. H. Saunders-Lincoln, 990 feet north and 330 feet west of the SE cor. of W half of NE of Section 3, Block 1, A.C.H.&B. Empire Gas & Fuel Co.'s No. 1 J. E. Meers-B, 330 feet north and 990 feet east of the SW cor. of SW of Section 106, Block 3, I.&G.N. Sun Oil Co.'s No. 1 Combs & Worley, 330 feet north and east of the SW cor. of SE of Section 35, Block 3, I.&G.N. Wilcox-Pampa Oil Co.'s No. 11 Combs & Worley, 330 feet north and east of the SW cor. of SW of Section 35, Block 3, I.&G.N. Same company's No. 12 Combs & Worley, 330 feet north and west of the SE cor. of SW of Section 35, Block 3, I.&G.N.

Wheeler County

Lone Star Gas Co.'s No. 4 L. C. Burcham, at the center of SW NE, Section 89, Block 17, H.&G.N. Survey. Same company's No. 1 J. W. Fuller, at the center of SW NE, Section 71, Block 17, H.&G.N. Survey. Same company's No. 2 Charles Hicks-Martin, at the center of NW NE, Section 52, Block 17, H.&G.N. Survey. Same company's No. 1 Nickell, at the center of NW NW, Section 64, Block 17, H.&G.N. Survey. Same company's No. 1 W. B. Wofford, at the center of SE SW, Section 68, Block 17, H.&G.N. Survey. Murchison & Fain's No. 8 I. Close, at the center of NE SE. Section 78, Block 23, H.&G.N. Survey.

NORTH CENTRAL AND WEST TEXAS

Archer County

P. C. Brashear and others' No. 1 J. T. Richardson, 150 feet north and 450 feet west of SE cor. W half, Section 11, Thomas McCoy Survey A-269. Coombs & Rogers' No. 1 L. J. Kunkel, 150 feet north and west of SE cor. N 60 acres, L. J. Kunkel 160-acre tract out of the B.S.&F. Survey No. 2, A-827. Douglas Oil Co.'s No. 7 W. J. McClure, 2,434 feet south and 150 feet east of NW cor. W 102 acres, Section 13, Crawford subdivision. Fain-McGaha Oil Corp.'s No. 1 S. G. Helm, 150 feet north and 1,625 feet east of SW cor., Section 2, Club Ranch subdivision, being 150 feet north and east of the southwest corner of its 220-acre lease. Golding & Cochran's No. 4 H. F. Harmel, 450 feet north and 150 feet west of SE cor. W 69.9 acres, Section 25, G. P. Meade subdivision, L. M. Pasture Survey. T. F. Hunter's No. 3-A A. H. J. Kunkel, 1,300 feet north and 1,050 feet west of SE cor. A. H. J. Kunkel 203-acre tract, and located in the G. W. Stell Survey A-381. Panhandle Refining Co.'s No. 18-C H. O. Prideaux, 750 feet north and 150 feet east of SW cor. 105-acre C lease, out of the A. Rohus Survey A-1,126. Same company's No. 2-F H. O. Prideaux, 750 feet north and 150 feet west of NW cor. R. J. Calvin 200-acre tract, being 950 feet north and 150 feet west of the southeast corner of its lease "F" out of the A. Rohus Survey A-1,126. P. B. Scott's No. 1 W. R. Farmer, 1,182 feet north and 3,132 feet east of SW cor., Bell County School Land, Survey A-12.

Arkansas Fuel Oil Co.'s No. 1 L. F. Wilson, 1,170 feet south and 750 feet east of the NW cor. of NW of NE of Section 103, A.T.N.C.L. Barnsdall Oil Co.'s No. 11 T. B. Wilson-A, 1,200 feet north and 1,100 feet west of the SE cor. of its lease "A" and located in the B. J. Howard Survey A-279. Barnsdall Oil Co.'s No. 12 T. B. Wilson-A, 1,200 feet north and 750 feet west of the SE cor. of its 200-acre lease "A" and located in the B. J. Howard Survey A-179. J. A. Minton's No. 1 George Kuhr, 150 feet north and east of the SW cor. of Section 122, Club Ranch Subdivision. Consolidated Oil Co.'s No. 2 H. F. Harmel, 450 feet south and east of the NW cor. of the east 20 acres of the north 50 acres of the south 210 acres of Section 2,490, T.E.&L. G. L. Pace and others' No. 1 G. A. Lauster, 450 feet south and 150 feet west of the NE cor. of SE of SE of Section 2, B.B.B.&C., A-824. Pandem Oil Corp.'s No. 10 J. A. Young-D, 150 feet south and 450 feet west of the NE cor. of the east 20 acres of the south 40 acres of the SE of Section 2,426, T.E.&L.

Coke County

Arkansas Fuel Oil Co. and others' No. 1 W. A. Stepp, 1,020 feet north and 2,340 feet west of the SE cor. of Section 254, Block 1-A, H.&T.C.

Baylor County

Consolidated Oil Co. and others' No. 13 W. H. Portwood, 945 feet north and 750 feet west of the SE cor. SW, Section 1,281, T.E.&L. Survey. Consolidated Oil Co. and others' No. 14 W. H. Portwood, 945 feet north and 450 feet west of SE cor. SW, Section 1,281, T.E.&L. Survey.

Brown County

E. L. Smith Oil Co.'s No. 1 G. W. Carmichael, 150 feet north and 700 feet east of the most southerly SW cor. P. Magee Survey No. 649. Same company's No. 18 Mrs. L. A. George, 350 feet north and 1,770 feet west of the SE cor., Section 42. Same company's No. 19 Mrs. L. A. George, 652 feet north and 1,770 feet west of SE cor. Section 42, H.T.&B. Survey. Arcadia Refining Co.'s No. 1 J. D. Davis, 450 feet north and 150 feet west of SE cor. N half, Lot 41, Kerr County School Land No. 276. Baker Brothers' No. 1 J. J. Gates, 150 feet south and 750 feet east of NW cor., Lot 39, Kerr County School Land No. 276.

Looney & Hutchinson's No. 1 Young-Murrell, 450 feet north and 150 feet west of the SE cor. of the north 60 acres of the SW of Section 2,426, T.E.&L.

F. P. Haynes and others' No. 1 H. J. Marr, 150 feet north and 1,155 feet west of the SE cor. of H. P. Tuggle Survey

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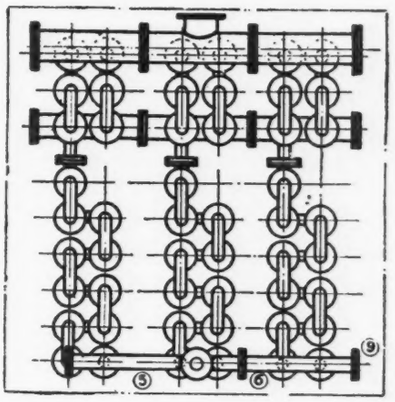

END VIEW

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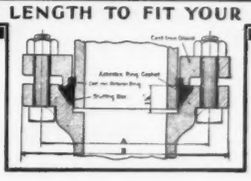

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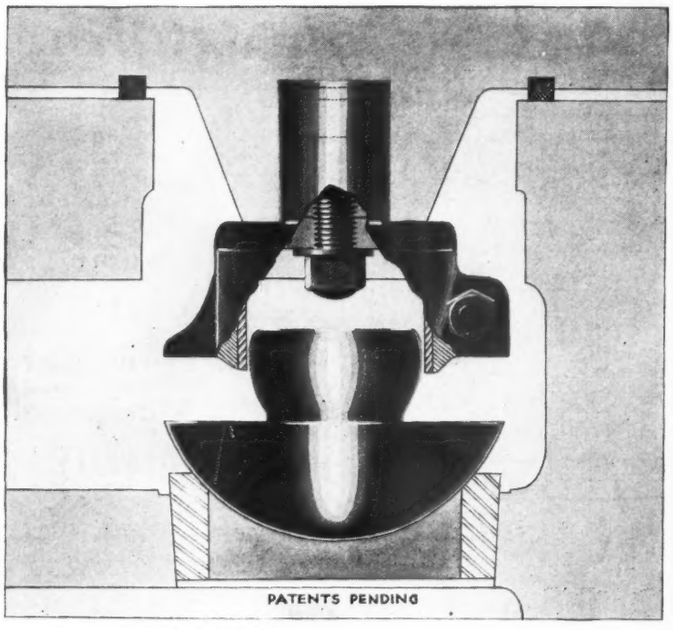

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No. 62, A-895. Baker Brothers' No. 1 G. P. Hall, 150 feet north and 750 feet east of the SW cor. of Lot 38, Kerr County School Land, No. 276.

Callahan County

Duffield Brothers and others' No. 1 I. N. Jackson, 150 feet south and 2,640 feet west of NE cor. Section 16, E.T.R.R. Survey. Gibson & Johnson's No. 3 I. N. Jackson, 150 feet north and west of SE cor. SW, Section 16, E.T.R.R. Survey. John Kleiner and others' No. 1 M. J. Gilliland, 1,135 feet north and 4,814 feet west of SE cor., J. Smith Survey No. 231.

Culberson Brothers and others' No. 1 M. Alexander, 150 feet north and 425 feet west of the SE cor. of Section 11, E.T.R.R. Prairie Oil & Gas Co.'s No. 1 W. P. West, 1,800 feet south and east of the NW cor. of the W. H. Johnson Survey No. 2.

Clay County

J. B. Peacock and others' No. 1 G. W. Byers & Co., 435 feet north and 1,050 feet west of SE cor. S 40 acres, Section 8, Byers Brothers subdivision. Saxet Oil Co.'s No. 2 J. D. Stine Est.-J, 900 feet south and 150 feet east of NW cor., Section 1, Parker County School Land, Survey A-374.

Coleman County

Arcadia Refining Co.'s No. 1 W. E. Gray, 750 feet north and 2,233 feet west of SE cor., M. Scott Survey No. 170. Copeland-Ray & Johnson and others' No. 1 W. A. Hubbard, 490 feet north and 200 feet west of NE cor., T.C.I.R.R. Co. Survey No. 70, and located in the W. Cole Survey No. 718. A. Urban and others' No. 1 John Rogers, 1,389 feet north and 903 feet west of SE cor., W. H. King Survey No. 737. Arcadia Refining Co.'s No. 2 S. E. Switzer, 750 feet north and 250 feet west of SE cor., Lot 8, W. Farris Survey No. 279. Atlantic Oil Producing Co.'s No. 3-B M. T. Overall, 200 feet south and 4,420 feet east of the most westerly NW cor., Section 9, Block 1, G.H.&H. Survey. P. Davies' No. 1 M. T. Overall, 330 feet south and 1,830 feet west of NE cor., Section 71, Block 1, G.H.&H. Survey. W. Preston and others' No. 2 J. McAdams, 450 feet north and east of SW cor. W 55 acres of J. McAdams 263-acre tract, out of the H. Frazier Survey No. 244. Tidal Oil Co.'s No. 4 J. L. Stewardson, 150 feet north and 1,030 feet west of SE cor., Section 91, E.T.R.R. Survey, being 150 feet north and 290 feet east of the southwest corner of their 80-acre lease.

Eastland Oil Co.'s No. 1 L. Weaver, 400 feet south and 980 feet east of the NW cor. of Lot 17, A. Gabel Survey No. 271. Gunn Producing Co.'s No. 1 Mrs. O. Kellar, 150 feet south and west of the NW cor. of Section 17, A. White Survey No. 161, A-690, and located in the I. Harris Survey No. 164, A-381. H. G. Gwinnup and others' No. 1 J. G. Shelton, 1,308 feet north and 663 feet east of the SW cor. of the W. M. Erath Survey No. 155, A-1,060. Vacuum Oil Co. and others' No. 6 L. Weaver, 620 feet north and 590 feet west of the SE cor. of Lot 9, A. Gabel Survey No. 271. Continental Oil Co. and others' No. 16 M. T. Overall, 200 feet south and 2,800 feet east of the most westerly NW cor. of Section 9, Block 1, G.H.&H. Lloyd Oil Corp.'s No. 7 G. B. Bartholomew, 1,540 feet north and 1,365 feet east of the SW cor. of the W. Farrish Survey No. 279. McMan Oil & Gas Co. and Galt-Brown Co.'s No. 1 S. C. Stewardson, 850 feet north and 3,810 feet west of the SE cor. of the R. Wilson Survey No. 334. Meredith & Benton's No. 2 W. M. McCulloch, 150 feet north and 1,050 feet east of the SW cor. of the south 60 acres of the north 108 acres of the W. M. McCulloch 268-acre tract out of the M. Lappe Survey No. 744, A-475. Permian Oil Co.'s No. 2 A. Reeves, 1,124 feet north and 450 feet west of the SE cor. of the A. Reeves 162-acre tract out of the J. C. Goodrich Survey No. 245. L. Smith and others' No. 2 S. E. Switzer, 1,950 feet north and 1,650 feet east of the SW cor. of the W. Farrish Survey No. 279.

Comanche County

Sun Oil Co. and others' No. 2 E. E. Bryson, 1,500 feet south and 2,200 feet west of the NE cor. of the W. C. Sypert Survey.

Concho County

Watchorn Oil & Gas Co. and others' No. 1 Mrs. L. Noyes, 1,320 feet south and east of the NW cor. of Section 19, Block 70, H.&T.C.

Cooke County

Sun Oil Co.'s No. 1 J. W. Milburn, 450 feet north and 150 feet east of SW cor. N 80 acres, J. DeGuire Survey A-341.

Russell & Lloyd Oil Corp.'s No. 1 C. Jacobs, 4,672 feet south and 961 feet east of the most westerly NW cor. of the C. Jacobs 138-acre tract out of the W. Caldwell Survey A-208. Faith Oil Corp. and Shaffer Oil & Gas Co.'s No. 1 J. F. Bugg, 150 feet south and east of the NW cor. of the J. F. Bugg 200-acre tract out of the H. Nail Survey A-790.

Crockett County

The California Co.'s No. 2 J. M. Shannon Lease 3, 258 feet south and 2,097 feet west of the NE cor. of Section 42, T.C.R.R.

Culberson County

Grisham Hunter Corp.'s No. 1 W. D. Garren, 2,310 feet north and 330 feet west of the SE cor. of Section 18, Block 89, School Land.

Eastland County

Chestnut & Smith's No. 1 C. C. Jones, 400 feet north and 362 feet east of the SW cor. of NE of Section 62, Block 4, H.&T.C. Lone Star Gas Co.'s No. 1 R. Word, 660 feet north and west of the SE cor. of W of Section 476, S.P.R.R.

Ector County

Skelly Oil Co. and others' No. 2-A University, 330 feet south and 440 feet west of NE cor., Section 1, Block 35, University Land.

Gulf Production Co.'s No. 1 A. Kloh and others-G, 330 feet north and 440 feet east of SW cor. of Section 5, Block 44, Township 3s, T.&P. Humble Oil & Refining Co. and others' No. 7 Kloh & Rumsey-D, 330 feet south and 440 feet east of the NW cor. of Section 7, Block 44, Township 3s, T.&P. Independent Oil & Gas Co. and others' No. 1 M. Eidson, 1,250 feet south and 2,144 feet east of the NW cor. of Section 6, Block 44, Township 3s, T.&P., being 330 feet north and east of the SW cor. of their lease.

Fannin County

Ed V. Parsons' No. 1 H. E. Morgan and others, 300 feet north and 1,550 feet west of the NW cor. of the E. Montgomery Survey and located in the J. E. English Survey.

Fisher County

Cranfill & Reynolds' No. 2 T. E. Willingham, 330 feet south and west of the NE cor. of the NW of Section 199, B.B.B.&C.

Gaines County

Humble Oil & Refining Co.'s No. 1 C. B. Carswell, 660 feet south and east of NW cor., Section 23, Block A-27, Public School Land.

Haskell County

Dixie Oil Co.'s No. 1 T. E. Ballard and others, 5,940 feet north and 7,243 feet east of the SW cor. of the S. Smith Survey A-372.

Howard County

Continental Oil Co.'s No. 4-E H. R. Clay, 330 feet south and east of NW cor. W half NE, Section 138, Block 29, W.&N.W.R.R. Survey.

Irion County

C. Cromwell and others' No. 2 J. M. Nutt, 504 feet south and 1,162 feet east of the NW cor. of Section 6, Gonzales County County School Land.

Jack County

Republic Production Co.'s No. 4 W. R. Ezell, 920 feet south and 330 feet west of the NE cor. of the W. R. Ezell 102-acre tract out of the I. Hughson Survey A-256.

Johnson County

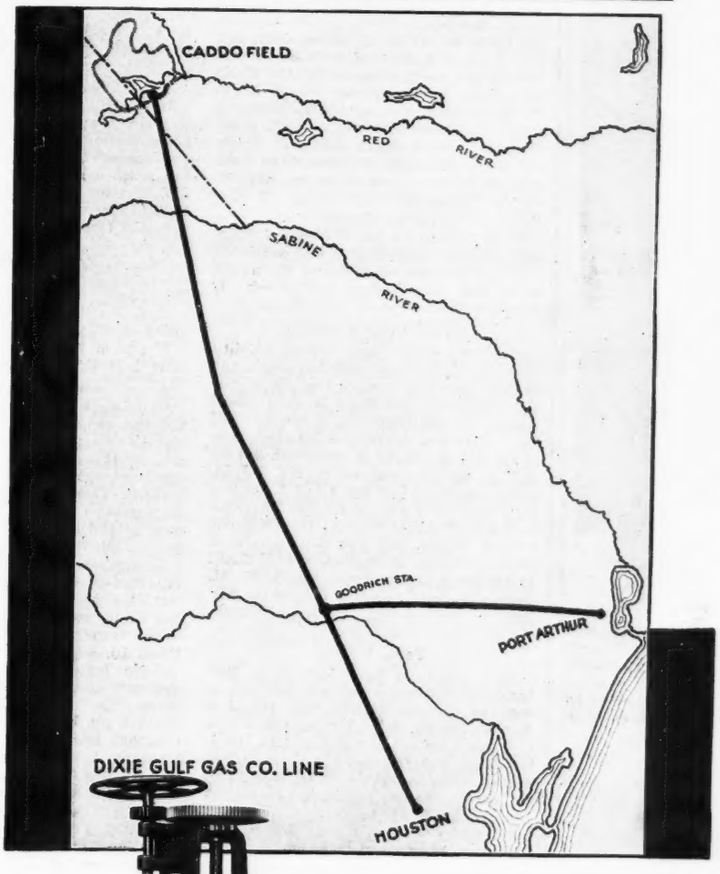
T. G. Shaw's No. 1 O. L. Wilkinson, 250 feet southeast of the northwest line and 450 feet southwest of the northeast line of the D. N. Carriger Survey.

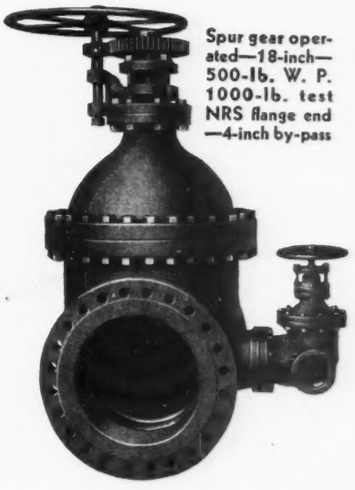
Montague County

O. V. Beck's No. 1 C. H. Howard, 3,481 feet north and 150 feet east of SW cor. of C. H. Howard 761-acre tract, out of the F. Robertson Survey A-620.

W. H. Godfrey and others' No. 2 J. E. Lemon, 750 feet north and 1,050 feet

3½ YEARS OF DEPENDABLE SERVICE





Spur gear operated—18-inch—500-lb. W. P. 1000-lb. test NRS flange end—4-inch by-pass

Spur gear operated—18-inch—500-lb. W. P. 1000-lb. test O S & Y flange end—4-inch integral by-pass.

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manufactured by the Westcott Valve Company East St. Louis, Ill., manufacturers of products for the Oil and Gas Industries exclusively. Full stocks carried in East St. Louis and all stores of the Continental Supply Company.

Spread G & B Pipe Sealing Compound on the male threads only, after making certain that all threads are absolutely clean. Just this will insure an impenetrable seal for the joint.

Keeps pipe joints leak proof . . .

Neither Gasoline nor Oil Can Seep Past G & B Pipe Sealing Compound

Here is a pipe sealing compound that sticks to its job through the hardest tests. Use it with the assurance that not a drop of gasoline or oil can leak away in your oil or gas pipe lines.

G & B Pipe Sealing Compound does not break down. It stands up as a perfect, permanent, insoluble joint-seal tomorrow or years from tomorrow. It lasts as long as the pipe is used. In handy packages G & B Pipe Sealing Compound comes in three convenient sizes, the ⅛ pint can at 15c; pint can at 75c; and the quart can for $1.45.

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east of SW cor. W 70 acres of S 100 acres of J. E. Lemon 200-acre tract, out of the S. Little Survey A-417. J. L. King's No. 1 Mrs. S. F. Loy, 2,050 feet north and 1,075 feet east of the most westerly SW cor., Mrs. S. F. Loy tract, out of the William Donoho Survey A-178, being 150 feet south and west of the northeast corner of his 25-acre lease.

Arco Oil Co.'s No. 1 Mrs. M. H. Salmon-E, 150 feet north and 550 feet west of the SE cor. of the south 100 acres of the Mrs. M. H. Salmon 421-acre tract out of the F. Robertson Survey A-620. Bridwell Oil Co.'s No. 2 J. S. Dennis, 150 feet south and west of the NE cor. of the J. S. Dennis 383-acre tract out of the F. Robertson Survey A-620. Bridwell Oil Co.'s No. 11 E. C. Edmondson, 565 feet north and 290 feet west of the SE cor. of the north 15 acres of the E. C. Edmondson 96.5-acre tract out of the T. R. Edmondson Survey A-222. Bridwell Oil & Continental Oil Co.'s No. 2 J. H. Brown, 150 feet north and west of the SE cor. of the south 80 acres of the J. H. Brown 347-acre tract out of the R. Graves Survey A-293.

Loving County

L. E. Lockhart's No. 1 Wheat & Ramsey, 440 feet southwest of the northeast line and 440 feet southeast of the northwest line of Section 83, Block 1, W.&N.W.R.R.

Palo Pinto County

Ashe Syndicate and Texas Fidelity Co.'s No. 2 W. Hart, 330 feet south and east of the NW cor. of the SE of the SE of Section 29, Block 3, T.&P. Burton-McKee Oil Corp.'s No. 8 Strawn Coal Co., 6,000 feet north and 700 feet west of the SE cor. of the A. Ashworth Survey A-1. L. Lindsey and others' No. 3 J. H. Robinson, 2,100 feet south and 1,300 feet east of the NW cor. of Section 53, Block 3, T.&P. Transcontinental Oil Co.'s No. 1 C. A. Dalton, 330 feet north and west of the SE cor. of Section 857, T.E.&L. B. Wickens and others' No. 1 V. M. Jones, 330 feet north and east of the SW cor. of Section 72, Burleson County School Land, League 3.

Pecos County

Dixie Oil Co.'s No. 3 Mrs. F. E. Torborg, 735 feet north and 150 feet east of SW cor. E half, Section 539, Arnold & Barrett Survey A-3. McMan Oil & Gas Co. and Continental Oil Co.'s No. 18 I. G. Yates, 275 feet south and 2,059 feet east of NW cor., Section 34½, Block 194, G.C.&S.F. Survey. Shell Petroleum Corp.'s No. 1-E University, 330 feet north and east of SW cor. NE, Section 31, Block 16, University Land.

Gulf Production Co.'s No. 29 I. G. Yates, 2,310 feet north and 5,315 feet east of the SW cor. of the Runnels County School Land, Survey A-2,169. Cardinal Oil Co.'s No. 1 J. H. Tippett-Kirby, 1,350 feet north and 330 feet west of the SE cor. of the west 320 acres of Section 40, Block 194, G.C.&S.F. Independent Oil & Gas Co.'s No. 1 Jasper Co. Realty Co., 1,160 feet northwest of the southeast line and 160 feet southwest of the northeast line of Section 21, Block 10, H.&G.N. Messenger and others' No. 1 L. L. Byrne, 2,130 feet southeast of the northwest line and 1,830 feet northeast of the southwest line of Section 54, Block 10, H.&G.N. Moncrief & Savoy Oil Co.'s No. 4 M. A. Smith, 330 feet north and 220 feet east of the SW cor. of their lease out of Section 24, Block 194, G.C. &S.F. Phillips Petroleum Co.'s No. 1 W. T. Shearer, 330 feet southwest of the northeast line and 330 feet northwest of the southeast line of the southwest 160 acres of the southeast 320 acres of Section 99, Block 10, H.&G.N. R. W. Porpus and others' No. 1 State, 330 feet north and east of the SW cor. of NE of Section 28, Block OW, T.C.R.R. Southern Crude Oil Purchasing Co.'s No. 1 H. J. Eaton, 330 feet northwest of the southeast line and 1,650 feet northeast of the southwest line of Section 35, Block 3, H.&T.C. W. F. Walsh and others' No. 1 Scharbauer Cattle Co., 330 feet south and 990 feet east of the NW cor. of SE of Section 16, Block 136, T.&St.L.

Taylor County

Mid-Continent Petroleum Corp.'s No. 1 A. L. Lindsey, 239 feet north and 219 feet east of SW cor., Section 22, Guadalupe County School Land No. 120.

Tom Green County

Phillips Petroleum Co. and others' No. 1 A. Gulden, 1,250 feet south and 1,583 feet east of the NW cor. of the J. Webb Survey No. 77.

Throckmorton County

Burton and others' No. 1 J. White, 150 feet north and west of SE cor. E 40 acres N half, Section 950, T.E.&L. Survey. H. Martin and others' No. 1 W. H. Crowsin, 1,400 feet north and 450 feet west of SE cor., Section 2,238, T.E.&L. Survey. Magnolia Petroleum Co.'s No. 1 T. Richards and others, 150 feet north and west of SE cor., Section 6, Richards subdivision, A. Morgan Survey A-226. L. V. Ulrey's No. 1 McKeichan, 1,290 feet south and 1,770 feet east of NW cor. NE, Section 1,641, T.E.&L. Survey.

Shackelford County

L. D. Hill's No. 1 B. S. Walker, 150 feet south and west of NE cor. S 80 acres, Section 138, T.E.&L. Survey. King and others' No. 1 M. J. Brewster, 510 feet south and 150 feet east of NW cor. SW, Section 48, Blind Asylum Land. Phillips Petroleum Co.'s No. 10 A. Parrish, 810 feet south and 150 feet west of NE cor. SE, Section 47, Blind Asylum Land. V. Ziegler's No. 1 Dawson and others, at the center of SE NE, Section 192, Block 10, E.T.R.R. Survey.

C. & B. Oil Co.'s No. 3 K. Leathers-A, 450 feet south and 150 feet east of the NW cor. of SE of Section 934, T.E.&L. (Dry hole 415 feet total depth.)

Shackelford County

Callahan & Carter's No. 1 J. H. Nail, 150 feet southeast of the northwest line and 150 feet southwest of the northeast line of the southwest 80 acres of the southeast 160 acres of Section 550, T.E.&L. Cranfill & Reynolds' No. 4 J. B. Matthews, 450 feet north and 150 feet west of the SE cor. of SW of NE of Section 32, Block 10, E.T.R.R. Grisham & Hunter's No. 1 W. Y. and R. A. Davis-B. 150 feet south and 450 feet west of the NE cor. of NW of Section 29, Block 13, T.&P. Hope Oil & Gas Co.'s No. 1 W. P. Newell, at the C SE of Section 142, Block 10, E.T.R.R. C. Marton and others' No. 1 G. R. Davis, 2,490 feet south and east of the NW cor. of Section 40, Block 12, T.&P. Roeser & Pendleton's No. 1 Scott Ranch, at the C NE of Section 202, Block 10, E.T.R.R. Union Oil Co.'s No. 1 J. H. Grimes, 150 feet north and west of the SE cor. of Section 75, Block 12, T.&P.

Stephens County

Phillips Petroleum Co.'s No. 2 C. E. Sikes, 510 feet south and 550 feet east of NW cor. of C. E. Sikes 169.7-acre tract, out of Section 13, Block 6, T.&P. Survey.

Chestnut & Smith's No. 1 J. E. Chesley, 330 feet north and east of the SW cor. of Section 52, Block 17, T.&P. Lone Star Gas Co.'s No. 4 H. B. Henry, 370 feet north and 330 feet east of the SW cor. of Section 53, Block 7, T.&P.

Upton County

Cordova Union Oil Corp.'s No. 1 Cordova Union Oil Corp., 330 feet north and west of the SE cor. of Section 1, Block 1, M.-K.-T.

Val Verde County

A. Bluhm's No. 1 J. P. Yoas, 1,760 feet north and 600 feet west of SE cor., Section 31, Block 3, I.&G.N. Survey.

Wichita County

C. H. Clark and others' No. 1 C. A. Allingham, 150 feet north and 1,620 feet west of SE cor., Section 32, Block 5, H.&T.C. Survey. R. R. Clark and others' No. 2 W. P. and J. F. Bickley, 1,500 feet south and 1,783 feet west of NE cor., Section 2, C.&M., A-594.

Everts Drilling Co.'s No. 1 M. Fowler, 150 feet south and west of the NE cor. of the south 40 acres of the W of Section 81, Red River Valley Land. Arkansas Fuel Oil Co.'s No. 28 Kemp & Kemp-ner-A, 150 feet south and 200 feet west of the SE cor. of Block 81, K.W.V.&L., and located in Block 82. W. H. Hamon's No. 11 S. Mitchell and others, 1,140 feet south and 150 feet east of the NW cor. of the J. T. Lewis Survey A-460. Humble Oil & Refining Co.'s No. 22 W. H. Taylor, 200 feet north and 150 feet west of the SE cor. of Block 81, K.W.V.&L.

Shappell Oil Co.'s No. 2 J. L. and T. J. Waggoner, 450 feet south and 523 feet east of the NW cor. of Lot 5, H. George Survey A-454.

Wilbarger County

Atlantic Oil Producing Co.'s No. 12 W. T. Waggoner (Seigler), 90 feet south and 2,484 feet west of NE cor., Section 35, Block 2, H.&T.C. Survey. Atlantic Oil Producing Co.'s No. 13 W. T. Waggoner (Seigler), 150 feet south and 2,784 feet west of NE cor., Section 35, Block 2, H.&T.C. Survey.

Atlantic Oil Producing Co.'s No. 11 W. T. Waggoner-Seigler, 150 feet north and 2,484 feet west of the SE cor. of Section 50, Block 2, H.&T.C. McCarty Oil Co.'s No. 1 W. T. Waggoner, 70 feet south and west of the NE cor. of SW or NW of Section 37, Block 4, H.&T.C. Martin and others' No. 3 M. J. George, 200 feet south and 767 feet west of the NE cor. of the south 30 acres of the west half of the northeast 80 acres (square) of the M. J. George 168.25-acre tract out of the J. Poitevent Survey No. 29, A-532. The Texas Company's No. 376 W. T. Waggoner, 1,650 feet south and 278 feet west of the NE cor. of Section 4, Block 13, H.&T.C. Zenith Oil Co.'s No. 3 S. A. Dill and others, 200 feet north and 450 feet west of the SE cor. of the SW of SE of Section 82, Block 14, H.&T.C.

Young County

Howard Petroleum Co.'s No. 2 C. J. Taack, 450 feet south and 150 feet east of NW cor. E half SW, Section 263, T. E.&L. Survey. Independent Drilling & Producing Co.'s No. 1 J. D. Lowe, 450 feet north and 750 feet east of SW cor. N 40 acres S 80 acres W half, Section 250, T.E.&L. Survey. Kliner and others' No. 1 N. L. Hardy, 150 feet south and 1,200 feet east of NW cor. E 120 acres N half, Section 260, T.E.&L. Survey. Nix & Dale's No. 1 J. B. Daniels, 150 feet north and east of SW cor. NE, Section 164, T.E.&L. Survey. Panhandle Refining Co.'s No. 1 J. M. Jimeson, 150 feet north and east of SW cor. W half NW, Section 242, T.E.&L. Survey. Petroleum Products Co. and Madden's No. 5 O. Deitrich, 450 feet south and east of NW cor. of their 60-acre lease, out of the G. W. Steel Survey A-256. E. R. Riggs' No. 1 Mrs. T. G. Jones, 375 feet north and 942 feet west of SE cor. S 40 acres N 80 acres, T. G. Jones 160-acre tract, out of Section 60, T.E.&L. Survey. H. F. Rodgers' No. 1 N. M. Dilbeck, 150 feet south and west of NE cor. S half, Section 330, T.E.&L. Survey. Christie Brothers' No. 3 J. Kisinger, 150 feet south and 540 feet east of NW cor. of their 20-acre lease, out of the J. Conner Survey A-57. Cunningham and others' No. 4 J. Kisinger, 150 feet north and 450 feet east of SW cor. of their 40-acre lease, out of the J. Conner Survey A-57.

W. R. Duke and others' No. 1 M. Foehr, 150 feet south and west of the NE cor. of the south 40 acres of the north 80 acres of the M. Foehr 160-acre tract out of Section 178, T.E.&L. Perkins & Cullum's No. 6 J. L. Lemmond, 530 feet north and 150 feet west of the SE cor. of the north 80 acres of the J. L. Lemmond tract out of the B.B.B.&C. Survey No. 1, A-35. Petroleum Production and Madden's No. 4 O. Deitrich, 450 feet south and 750 feet east of the NW cor. of the south 60 acres of the north 75 acres of the O. Deitrich 150-acre tract out of the G. W. Stell Survey A-256. George Terrell and others' No. 1 A. C. Watson, 1,150 feet south and 1,280 feet west of the NE cor. of Section 249, T.E. &L. Christie Brothers and others' No. 1 J. Kisinger, 1,225 feet northwest of the northwest line of the W. J. Orrick Survey A-217 and 1,075 feet southwest of the southwest line of Section 3, B.B.B. &C., A-27, and located in the John Conner Survey A-57, being 170 feet southeast of the northwest line and 170 feet northeast of the southwest line of their 40-acre lease. Long and others' No. 2 R. M. Williams-A, 914 feet southeast of the northwest line of the R. O. Woolfork Survey No. 15, A-1,279, and located on the bank of the Brazos River. Mid-Texas Oil & Gas Co.'s No. 5 Childress & Donnell, 200 feet south of the south line of Section 4, S.P.R.R., A-1,850, and 750 feet west of the most easterly east line of the J. A. Morgan Survey A-1,817.

Corrections

In Brown County: Phillips Petroleum Co.'s No. 1 T. S. Williams-B, 2,492 feet south and 2,350 feet west of the NE cor. of the John Beck Survey No. 792.

In Callahan County: Mook-Texas Oil Co.'s No. 4 F. Johnson, 580 feet south and 380 feet east of the NW cor. of E half of Section 83, Comal County School Land.

In Coleman County: L. Smith and others' No. 1 S. E. Switzer, 165 feet north and 425 feet west of the SE cor. of the S. E. Switzer 115-acre tract out of the W. Farrish Survey No. 279. Galt-Brown and others No. 1 S. C. Stewardson, 1,675 feet north and 3,300 feet west of the SE cor. of the Robert Wilson Survey No. 334, Galt-Brown and others' No. 2 Stewardson, 2,540 feet north and 4,110 feet west of the SE cor. of the R. Wilson Survey No. 334. V. Mattox and others' No. 1 W. C. Williams, 150 feet north and west of the SE cor. of the W. C. Williams 93.4-acre tract out of the William Farris Survey No. 279.

In Gray County: Danciger Oil & Refining Co. and others' No. 6 W. Jackson, 990 feet north and 330 feet west of the SE cor. of the NW of Section 88, Block B-2, H.&G.N.

In Hutchinson County: Dixon Creek Oil Co.'s No. 1 Johnson Brothers, 330 feet south and west of the SE cor. of Section 83, Block 46, H.&T.C., and located in the J. Gammon Survey.

In Menard County: Preist & Duffy's No. 1 J. P. Sorrell, 200 feet north and 1,000 feet west of the SE cor. of Section 132, E.L.R.R.

In Pecos County: The Texas Company and others' No. 1 V. B. Wright estate, 660 feet south and east of the NW cor. of Section 9, Block 131, T.&St.L.

IMPROVED REFINING METHODS IN ITALY

(Continued from Page 46)

lator drum is immediately treated in continuous agitators recently built.

Auxiliary to the Holmes-Manley unit is a tar stripping plant. This includes a cylindrical still set horizontally and well insulated, two bubble towers, condensing and cooling coils. The pressure bottoms are periodically drawn from the bottom of the four chambers being released from the operating pressure of 20 atmospheres to a pressure of one-half atmosphere at a temperature of 425° C. By means of their latent heat of vaporization, are stripped to heavy fuel (8-9° Be.), which ranges between 15 to 20 per cent of the charge. From 40 to 45 per cent of recycled stock is obtained and mixed with the fresh stock and in this proportion. The ultimate yield of finished 195° C. endpoint gasoline ranges between 62 to 65 per cent by volume with reference to the fresh stock.

Cracked Gasoline Marketed

Thus, cracked gasoline has entered the Italian market. Two Dubbs units are already in operation, one in Naples operated by the B.E.I.T. and another one in Spezia, near Genoa, operated by the Shell Co. of Italy. The two Dubbs and the Holmes-Manley started operation the last part of the past year. Up to this date no objection to cracked gasoline has been encountered on the market.

The Continuous Treating Plant

With the erection of the cracking plant arose the necessity of constructing a treating plant. The cracked gasoline produced by the Holmes-Manley stills and the straightrun gasoline are today treated in continuous agitators, while the open agitators are still used for treating the kerosene.

The chemical reagents used are sodium plumbite (doctor), sulphuric acid, fine clay and sodium hydroxide. The cracked gasoline as it comes from the accumulator drum of the Holmes-Manley plant is pumped through a mixer, wherein it contacts with 18° Be. doctor solution and sulphur. The plant is so arranged that acid treatment, if required, could be given first. It then passes to the doctor settling tanks. The doctor treated gas-

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In the illustration is an actual photograph of a "TOLEDO" Work Bench holding 4000 lbs. of rough castings.

Yet they are light in weight and can be easily moved about. Made in two models. No. 4 Work Bench for pipe up to 2" and No. 5 Work Bench for pipe up to 4½". Table castings are drilled for all standard makes of vises.

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PETROLEUM PLANTS

oline not being color-stable, is given 1½ per cent by weight of 52° Be. sulphuric acid. The ordinary 66° Be. acid cannot be used for it has a strong oxiding action on the cracked gasoline and causes a reddish color on the treated gasoline when exposed to sunlight. The mixture of gasoline and acid is pumped through a mixer to an acid settling tank. The acid sludge is withdrawn from the bottom, but the acid is not recovered, due to the small quantities available and the relatively low cost of the fresh sulphuric acid.

The doctor treated gasoline is contacted with fine clay (a special German clay) which acts as a decolorizing and coagulating medium in so far as it absorbs some coloring matter and also coagulates the very fine tar particles which are suspended in the acid settled treated gasoline. The clay treated gasoline is finished with a wash of 8° Be. sodium hydroxide. No water washing is used.

The treated gasoline is doctor negative and is color-stable in storage. The Italian specifications for color on the motor gasoline are not indicated in terms of any standard instrument; a yellowish color is tolerated. However, the gasoline marketed by the "Agip," under the trade name "Benzina Victoria," is supplied by the Raffineria di Olii Minerali and has a color of 23-25 Saybolt.

Wax Plant

The Raffineria di Olii Minerali makes white waxes of different melting points, but the more popular ones are 48-50 degrees, 50-52 degrees and 52-54 degrees. The wax is white, free of any trace of oil and is sold in cakes of 12 inches by 8 inches by 1½ inches in size.

The process of dewaxing the paraffin distillate passes through the common steps of chilling, pressing, sweating and treating. Refrigeration is effected by circulating brine, maintained at the desired chilling temperature by means of liquid ammonia. This ammonia is continuously circulated by the compression system as in common practice. The chilling takes place in small-size insulated tanks provided with coils, while the wax distillate is maintained in continuous agitation by a series of paddles mounted on a vertical shaft.

The soft wax is separated from the chilled distillate by cold pressing. The soft wax is melted, filtered in a filter press in order to retain the small particles of coke which are suspended in it. Then it is chilled again (10-15 degrees) and pressed.

Wax Sweating

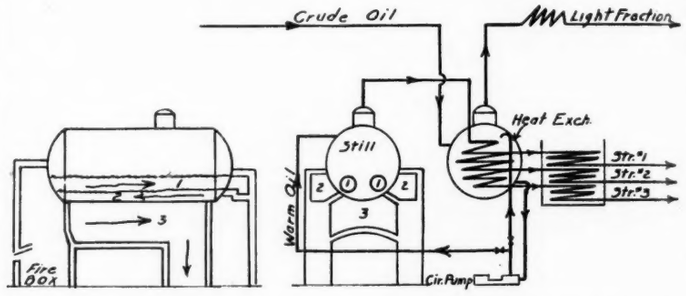
The slack wax from the second pressing is melted and charged to the sweating chambers. Each sweating chamber has eight pans installed in a vertical tier. The sweating is accomplished by the use of hot air instead of hot water circulating in coils located above the screen as is the ordinary practice. The hot air gives a more uniform temperature in the chamber and a better control of the temperature, thus obtaining a good fractional sweating.

The air in the chamber is maintained in continuous circulation by an electric fan located in front of the chamber. The air is contacted with a series of steam radiators. By regulating the amount of steam in these radiators, the chamber temperature may be easily regulated.

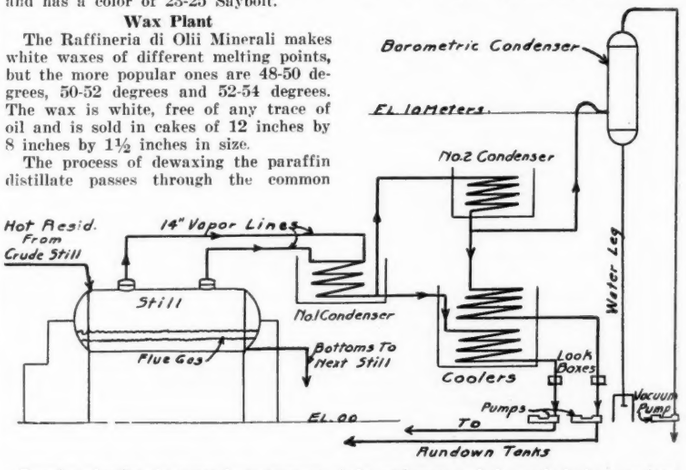
The chamber temperature, as long as the sweating continues, is raised at a rate of about 1-2° C. per hour and always maintained 2-3° C. above the melting point of the sweated oil stream.

The two cuts are made along the sweating operation: (1) From the starting of the sweating till 35° C. melting point on the stream (foot oil). This oil may be chilled again.

(2) Intermediate cut between 35° and 47-48° melting point. This cut, mainly composed of low melting point waxes, is resweated. In such a case the second cut is made at 43-44° melting point. All left in the pans (45-50 per cent of the charge) is sweated wax; it is melted by means of open steam and subsequently treated. Each charge takes 70-90 hours to process.



Side view and end view of the topping units showing the manner of heating by means of cast iron flues passing through the shell of the still.

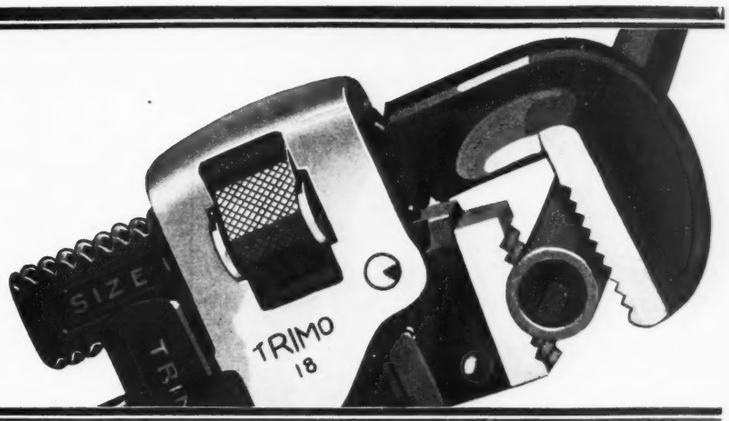


Drawing showing the general arrangement of the equipment and the method of processing the hot residuum through the vacuum stills to make lubricating oil stocks and to reduce the crude to heavy bottoms

Testing and Experimental Laboratory

The Raffineria di Olii Minerali has a complete testing laboratory where all petroleum products are accurately tested before shipment, in order to send out products which conform to the specifications demanded. The laboratory also helps to guide the plant operations. It

TRIMO



Year after Year the Men Who Know Stick to the Wrench that *Does Not Break*

PURCHASING TOOLS is not a thing to be learned over night. Years of experience build up the sound sense of values that leads to making the right choice.

Regarding pipe wrenches, a talk with the seasoned purchasing agent or a check-up of requisition sheets will bring out one striking fact. Year in, year out the men who really know have stuck to TRIMO because of its consistent ability to stand terrific punishment without breaking.

New tools have come and gone—new claims of better performance or lower cost. But in the face of the hardest competition, TRIMO stands today where it always has stood, as America's finest pipe wrench—the choice of the men who know.

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Pipe Wrench

All Steel for Strength

Handle Drop Forged Not Cast

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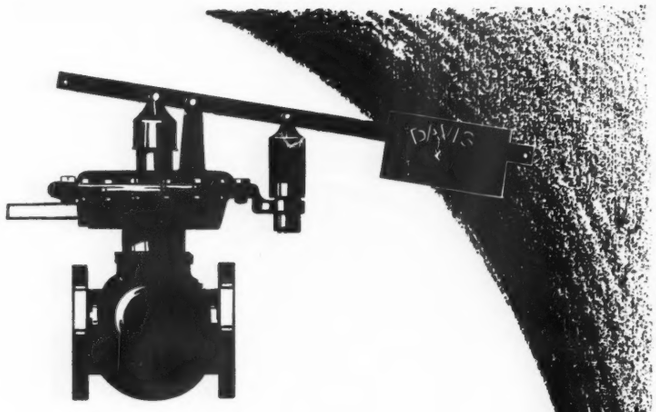

How to hogtie well vacuums

FOR a simple, dependable and accurate means of regulating vacuums in individual wells, you can't do better than install Davis Casinghead Gas Regulators.

This equipment "hogties" vacuums in a highly efficient manner —maintaining the desired well vacuum regardless of conditions in the suction line. Thousands are in successful operation in the oil fields; many large operators have practically standardized on them.

Whatever your automatic pressure control requirement is, Davis can fill it. Write for latest bulletin.

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Automatic valve makers for over fifty years
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is beyond the purpose of the description to enter into all details of all test methods for petroleum products as they are in use in Italy according to European systems. It may be said simply that the Raffineria di Olii Minerali is able to carry all kinds of tests referred to petroleum products.

Apart from the testing laboratory the Raffineria is equipped with an experimental laboratory where a well-trained staff of chemists and engineers carry on experiments for the manufacture of lub oils, greases, waxes, crude oil, etc.

Crude Runs Increasing

The refinery activity is increasing year after year and following crude runs give an idea of its expanding activities:

Year—	Metric tons
1925	13,500
1926	23,500
1927	31,000
1928	36,000
1929	42,000

During 1930 the refinery is running at a rate of 80,000 metric tons. The shipping activities are shown below including shipments of crude oil and petroleum products imported and exported.

Year—	Metric tons
1925	40,000
1926	100,000
1927	140,000
1928	152,000
1929	170,000

CENTRAL WEST FIELDS

(Continued from Page 76)

Hadsell, Section 1, makes a fair gas showing in the Keener formation from 1,199-1,208 feet, but may be drilled deeper in quest of oil.

In Morgan County, York Township, the Pure Oil Co.'s No. 7 Wilber Bush farm, Section 28, produced 16 bbls. initial from the upper Berea sand from 1,319-34 feet, total depth 1,350 feet. Ohio Fuel Gas Co. is drilling No. 6-4,939 Hiram Thomas farm, in fractional Section 34, Marion Township.

INDIANA

Southwestern Indiana is making its best showing for many months, there being 8 completions for the week with 3 gas wells and 5 oil producers, two of which are far above the average finds in that part of the state. The Mahutska Oil Co. and others' No. 3, 200 feet from the south line and 1,250 feet from the west line of the Ford-Hill farm, NW, Section 31, Clay Township, Pike County, produced an initial of 150 bbls. from 1,305-19 feet. The other large producer was the Siosi Oil Corp.'s No. 17, 1,300 feet from the south line and 660 feet from the west line of the William Riggs farm, in the west half of Section 32, Prairie Creek Township, Vigo County. This well was drilled for a deep test and was sent to a total depth of 3,530 feet and was plugged back to the 2,250-foot sand, given a shot and produced an initial of 150 bbls.

In Gibson County, Barton Township, Rodgers & Randall's No. 4 well, 620 feet from the south line and 800 feet from the west line of the John D. Williams farm, SE, Section 5, produced an initial of 46 bbls. from 1,335-55 feet. In Washington Township, the Big Four Oil & Gas Co.'s test, 700 feet from the north line and 800 feet from the east line of the C. T. Sloan farm, SW, Section 18, produced 20 bbls. initial along with 130,000 feet of gas, from 1,250-53 feet.

In Pike County, Clay Township, Roger A. Lee and others' No. 3 well, 225 feet from the north line and 775 feet from the east line of the Charles McAtee farm, in Location 146, produced 1,000,000 feet of gas from 1,343-52 feet. Charles C. Taliaferro, Jr., drilled in No. 4 in the southeast corner of the Mary McAtee farm, SW, Location 146, produced 750,000 feet of gas from 1,338-50 feet. Same party drilled in a test 300 feet from the north line and 800 feet from the east line of the Frank DeMott farm, NW, Section 7, Jefferson Township, same county, which produced 200,000 feet of gas from 1,070-72 feet. In Washington Township, McNaughton and others' test in the northwest corner of the W. Morrison farm, NW, Section 30, and east of the town of Alford, pumped 25 bbls. initial from 1,117-68 feet. The Newark Tool Co. is starting a well on the Frank Anderson farm, same township.

Twin City Oil & Gas Co. is starting No. 4 well on the E. E. Williams farm, Section 5, Fairbanks Township, Sullivan County, and unknown parties are drilling on the John Lynch farm, near the mouth of Busseron Creek, same county.

Hoosier Drilling Co. is reported working on the Mrs. Henry Longbrake farm, near the town of Zoar, in Dubois County.

ILLINOIS

Illinois is showing a gain in work over the state and during the coming summer many tests will be drilled along the Mississippi River, where the Trenton lime formation is found at very shallow depths. The Dupo Field, in Sugar Loaf Township, St. Clair County, reported but two completions for the week, both being owned by the Ohio Oil Co. No. 5 on the Phillip Frye, NW, Section 34, pumped 25 bbls. initial from 679-744 feet, and No. 4 I. S. Gaskill, in the same section, pumped 25 bbls. from 674 to 725 feet. Same company drilled deeper its No. 2 on the William Anderline, NE, Section 33, Sugar Loaf Township, from 688-742 feet, producing an initial of 4 bbls.

In the Allendale Field, of Wabash Township, Wabash County, W. C. McBride, Inc., drilled in No. 8 on the northwest corner of the J. H. Cisil farm, NE, Section 24, getting a 5-bbl. pumper in the Biehl sand from 1,464-82 feet. Highland Oil & Gas Co.'s No. 4 well, 500 feet from the south line and 600 feet from the west line of the J. M. Mullinax farm, SE, Section 5, same township, was dry at 1,732 feet.

In Lawrence Township, Lawrence County, the Ohio Oil Co. abandoned old No. 3 on the T. H. Seed farm, NW, Section 10.

In Oblong Township, Crawford County, the Associated Producers Co. drilled in No. 21 on the Caroline Wilkin farm, Section 16, for a pressure well. Montgomery, Weger and others are drilling on A. Carter, Section 18, Honey Creek Township. In Prairie Township, the Porterville Oil Co. is drilling No. 2 J. Akeman, Section 35. O. R. Oil & Gas Co. is drilling No. 2 Noah Gray, Section 1, and M. Watson and others are starting No. 1 J. W. Bline, Section 13.

SHELL COMPANY CO-OPERATING

NEW YORK, Mar. 31.—Curtailment of field work by Royal Dutch-Shell in the Far East, reported in cables this week, is not due to competitive conditions but to the co-operation of the Shell interests with the American Petroleum Institute's plan for world oil conservation, said Richard Airey, director of Asiatic Petroleum Co.'s interests in this country, and American representative of Sir Henri Deterding, managing director of Royal Dutch-Shell.

Dutch-Shell interests in this country and abroad are working in close harmony with American oil companies in an endeavor to establish a balance between world supply and demand for crude oil and refined products, Mr. Airey declared.

Commenting on competitive conditions in East Coast United States territory, Mr. Airey emphasized that Dutch-Shell interests are not "fighting" any one company or group of companies, but merely constitute one of a dozen or more large companies engaged in marketing operations here.

GEOPHYSICAL TECHNOLOGIST

The United States Civil Service Commission announces an open competitive examination for assistant geophysical technologist. Applications must be on file at Washington, D. C., not later than April 30, 1930. The examination is to fill a vacancy in the Bureau of Mines. The entrance salary ranges from $2,600 to $3,100 a year. The duties are to design, develop, make drawings and layouts, write specifications for, and supervise the construction and testing of new electrical, mechanical, acoustical or visual apparatus required for geophysical prospecting.

ONLY 32 TRACTS WILL BE OFFERED AT NEXT OSAGE OIL LEASE SALE

The next sale of Osage oil leases, which will be held at Pawhuska on Saturday morning April 5, will have a novel accompaniment, consisting of a sale of leases for mining lead, zinc, copper, gold and silver. The mining leases will be sold immediately following the close of the oil lease sale.

Only 32 tracts will be offered for sale for oil development purposes, and for the first time since 1921 no Burbank leases will be offered. Only three leases will be offered west of Range 9. Oil leases will be made for a period of five years or as long as oil is found in paying quantities, but such period shall not extend beyond the time the title to minerals remains in the Osage Tribe.

The Secretary of the Interior in his discretion may impose restrictions on oil production when necessary as a conservation measure and to conform to similar restrictions imposed upon wells in Oklahoma by state authority or agreement of operators.

The following oil leases will be offered for sale:

Tract	Description	Acreage
1	NE 10-24-12	58.12
2	NW 10-24-12	160
3	NW 24-20-11	160
4	SW 24-20-11	160
5	SE 11-21-11	160
6	NW 29-21-11	160
7	SE 8-22-11	160
8	NE 27-22-11	160
9	SW 34-22-11	160
10	SE 35-25-11	160
11	SW 36-25-11	160
12	SE 21-27-11	160
13	NW 24-27-11	160
14	SW 24-27-11	160
15	NE 28-27-11	160
16	NW 34-20-10	160
17	SW 29-21-10	160
18	NW 32-21-10	160
19	NE 18-22-10	160
20	SE 24-23-10	160
21	NE 31-23-10	160
22	NE 31-27-10	160
23	NW 31-27-10	160
24	NW 6-21- 9	160
25	SW 16-21- 9	160
26	SE 17-21- 9	160
27	SE 29-29- 9	160
28	SW 29-22- 9	160
29	NE 29-23- 9	160
30	SE 3-25- 8	160
31	NW 24-23- 7	160
32	NE 18-23- 6	160
	Total acres	5,018.12

Mining Leases

The sale of mining leases following the oil lease sale will be conducted by auction, the same as the oil lease sale, and the tracts will go to the highest responsible bidders. Seven tracts will be offered as follows:

Tract	Description	Acreage
1	W½ NW 2-25-9	80
2	NE 3-25-9	160
3	E½ NW 3-25-9	80
4	N½ SE 3-25-9	80
5	E½ SW 34-26-9	80
6	SE 34-26-9	160
7	W½ 25-28-6	320
	Total acres	960

The Department of the Interior in publishing the notice of the mining lease sale says it has no definite information as to the existence or nonexistence of the minerals covered by the advertisement within the boundaries of the lands described, but that it is represented by parties desiring to have the lands offered for sale that examination has indicated presence of such minerals. The tenure of the lease shall date from the time the sale is approved and as long thereafter as the title to the minerals remains in the Osage Tribe.

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SUMMARY OF STATEMENTS MADE MARCH 10, 1930, RELATING TO BUSINESS OF VARIOUS PIPE LINES FOR MONTH ENDING FEBRUARY 28, 1930

	Gross stocks	Runs from wells	Other receipts	Regular deliveries	Other deliveries
Nat. Transit	769,712.92	366,221.35	626,509.06	546,268.96	463,759.26
S. W. Pa. P. L.	517,173.78	85,041.96	571,754.75	297,049.02	356,106.66
Eureka P. L.	1,450,357.33	354,681.93	290,935.71	257,040.33	370,840.60
Buckeye P. L. (Macksburg)	703,523.57	342,776.22	58,734.01	181,006.51	131,091.23
Buckeye P. L. (Lima, etc.)	5,172,616.79	97,135.19	2,060,005.45	1,018,919.25	723,195.18
Buckeye P. L. (Cleveland)	66,689.66	9,978.95	47,397.99	1,711.55	74,532.55
Indiana P. L.	782,290.66	4,149.46	2,711,925.98	1,400,007.24	1,285,417.94
Cumberland P. L.	548,921.63	179,067.13	1,971.04	107,172.62	.....
Southern P. L.	347,291.82	.....	177,069.06	7,067.18	138,681.53
Bradford Trans.	195,601.39	422,524.62	.....	475,276.19	.....
N. Y. Transit	349,684.13	36,498.53	166,097.23	130,029.94	33,310.35
Northern P. L.	606,100.40	.....	466,379.72	203,652.26	225,502.90
Tidewater Pipe	994,005.84	.....	.....	445,604.24	.....
Tuscarora Dev.	265,783.29	.....	.....	426,375.21	.....
Total Feb. 28	11,223,930.08	2,009,372.36	8,615,067.16	5,845,657.47	4,840,806.55
Total Jan. 31	12,769,752.71	1,898,075.34	7,178,780.00	5,497,180.50	3,802,438.14
Difference	1,545,822.63	111,297.02	1,436,287.16	348,476.97	1,038,368.41

INTERNATIONAL OUTPUT IN COLOMBIA AND PERU

NEW YORK, Mar. 31.—International Petroleum Co., Ltd., produced in Colombia and Peru during January a total of 2,625,443 bbls. of crude oil, compared with 2,511,976 bbls. in January of last year.

January shipments by International from these two countries aggregated 2,012,201 bbls., against 1,885,616 bbls. in the same month last year.

The company completed 13 new wells, with initial yield of 601 bbls. per well on the average, in Colombia during January, compared with 6 completions, flowing 615 bbls. daily initial, in January, 1929. Total production by International in Colombia during January was 1,721,744 bbls., or 55,540 bbls. daily, compared with 1,674,245 bbls., or 54,008 bbls. per day, in the same month last year. Shipments from Colombia during the month were 1,564,811 bbls., or 50,478 bbls. per day, against 1,605,048 bbls., or 51,776 bbls. daily, in January last year.

Peruvian completions by International in January totaled 13, with average daily initial output of 284 bbls., against 12 wells, good for 136 bbls. daily initial, last January. Production in Peru for the month was 903,699 bbls., or 29,151 bbls. daily, against 837,731 bbls., a daily average of 27,042 bbls., in the same month last year. Shipments showed a sharp increase at 447,390 bbls., or 14,432 bbls. daily, against 280,568 bbls., or 9,051 bbls. per day, in January, 1929.

KENTUCKY-TENNESSEE

(Continued from Page 80)

hours from a depth of 584 to 610 feet. No. 8, same farm, produced 40 bbls. initial. Same parties' No. 6 Vincent J. Steele farm, same pool, produced 100 bbls. This farm contains 125 acres, known as the Chicken farm, where three wells were drilled about two years ago.

Kemrow-Cumberland Petroleum Co.'s No. 2 S. L. Lolyd 70 acres, in the Buford Pool, produced 200 bbls. the first 24 hours from the Stray sand, and No. 3, same farm, produced 75 bbls. Same company's No. 10 Cicero M. Wade farm, same pool, produced 200 bbls. initial.

Hupp, Duff and others' No. 6 J. A. Stewart farm, Buford Pool, showed 100 bbls. initial at a total depth of 625 feet. In this well a string of 600 feet of casing was set.

James C. Ellis drilled No. 6 well, 150 feet from the north line and 300 feet from the east line of the W. P. Howard farm, about 2 miles east of Whitesville, which produced 70 bbls. initial.

Jenkins and others' No. 1 on the Sally Royal farm, in the Friendship Pool, is a nice gas producer. Hupp & Duff's No.

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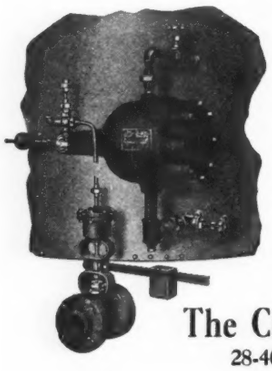

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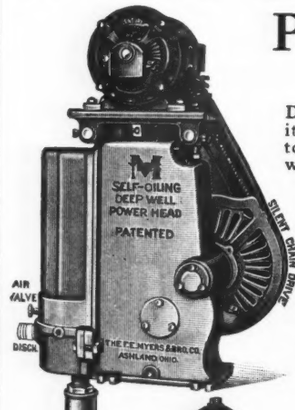

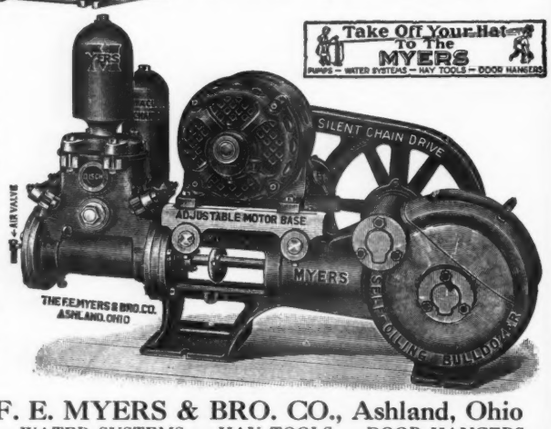

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PUMPS — WATER SYSTEMS — HAY TOOLS — DOOR HANGERS

1 on the Arthur Whitehouse farm is reported at 5 bbls. from the Jones sand.

Louisville Gas & Electric Co.'s No. 5 on the R. M. Miller 175 acres, near Haynesville, pumped 5 bbls. This well is 800 feet from the south line and 1,400 feet from the west line of the lease.

George Randolph and others found a dry hole on the Jess Brown farm, 3 miles east of Whitesville. James C. Ellis and others got a dry hole in No. 4 on the G. M. Burdette 63 acres.

Daviess County Wells

Onsel Brothers got a 50-bbl. initial producer on the west side of the W. L. Taylor 122 acres in the Burton Pool in Daviess County. On the eastern portion of the same farm, C. E. Daugherty's No. 2 produced 40 bbls. initial.

Hupp & French's test on the W. L. Weir in the Cane Run area is rated good for 15 bbls. Ben F. Wright and others' No. 3 Goldie Ambrose farm, same field, produced 30 bbls. initial, and Henry & Stimson's No. 1 Wes Jackson farm was dry.

Eastern Gulf Oil Co.'s second test on the Rose B. Tyler 75 acres, in the Red Hill Field, produced 20 bbls. first 24 hours. In the Maxwell area of the county the Leeper Oil Co.'s well on the N. B. Salmon farm produced 20 bbls. initial. White and others' test on the Hattie Ramer farm proved to be a duster at a total depth of 750 feet.

Scattered Completions

Sam T. McGill and others' No. 3 well, 600 feet from the south and west lines of the Leo Rosenblott 60 acres, in the Pellville Field of Hancock County, produced 5 bbls. the first day after being given a shot.

In Henderson County, Niagara Field, the Wittmer Oil & Gas Co.'s No. 4 on the John Crosby farm, 2½ miles northeast of the town of Niagara, pumped an initial of 15 bbls. Same company's No. 1 Walter Baskett farm was dry and has been abandoned, there being but a very light gas volume. K. M. Dole and others got a heavy dose of water on the O. W. Rash, or Sopher heirs farm, same field.

Fred Hensgen and others drilled a wildcat 7 miles southeast of Bowling Green, 600 feet from the north line and 800 from the east line of the J. T. Rector farm, which was dry in the shallow pay at 520 feet. This well is in Warren County.

Field Pickups

The Ohio Oil Co. is moving a rig on the Ranson Lee farm, 1½ miles south of Dupoy in Muhlenberg County. Lowman, Daley and others are drilling No. 3 on the James B. McGarvin farm in the Pellville Field of Hancock County.

K. M. Dole and others are drilling on the Agnew farm in the Niagara Field of Henderson County, also on the Joe Walden farm, same field. Pointer and others are drilling No. 1 Williams farm, same field, and the Niagara Oil & Gas Co. is drilling No. 3 on the G. P. Jeter farm.

In Daviess County, Owensboro Field, Watson & Vickers are drilling on the M. Iglehart farm, southeast of the Burton Pool, and same parties are drilling on the Schultz farm. Unknown parties are drilling a second test on the H. Asher farm.

In Ohio County, Dixon and others are drilling a second test on the J. H. Milligan 108 acres. Boop & McDonough are shut down on the C. W. Newton farm. Rex-Pyramid Oil Co. is drilling No. 18 Sallie Hoover in the Barnetts Creek Church Pool and No. 12 C. W. Morgan in the Buford Pool. Petroleum Exploration Co. is shut down at No. 1 J. S. Huff farm. About 30 strings of tools are working in the Ohio County area, and many more will start now that the oil men and drillers and toolies have returned after a three months' shutdown.

DR. HEROLD CHOSEN UMPIRE

LOS ANGELES, Calif., Mar. 31.—Dr. Stanley C. Herold, petroleum geologist and former Stanford professor, has been appointed by Secretary Wilbur to serve as umpire in determining a division of the oil proceeds for January from the four producing wells on government permit acreage in the north dome of Kettleman Hills.

Doctor Herold's appointment followed failure of the four experts appointed to decide on the January proration of oil funds and is in accordance with the agreement which specifies the appointment of an umpire in the event the committee named cannot agree. Under the agreement a sliding scale ranging from 10 per cent to 25 per cent was fixed for proration of oil funds. One of the companies interested objected to the proration of oil funds only, claiming gas proceeds should have been included as they involve fully 35 per cent of revenue from the wells. The company insisted on the maximum for January, or 25 per cent payment.

Doctor Herold is an expert on drainage of oil and gas and for several months has been engaged by Union Oil Co. in compiling a private report on this subject with respect to the Kettleman Hills district and all other sections in which Union is interested.

INJURIES TO TOOL DRESSERS

BRADFORD, Pa., Mar. 31.—Al Brey, tool dresser, was fatally injured when struck on the head by a broken bull rope. His skull was fractured and jaw broken. The accident occurred on a drilling well at Rixford. He died in the Bradford hospital.

About the same time and on another lease in the Knapp Creek sector, Carl Richardson, tool dresser, was hit on the head by the bit on a swinging drill stem. His skull was crushed. The accident occurred on a drilling well in a deeply wooded and rough part of the field and several hours were consumed in getting the injured man to the Olean, N. Y., hospital. The entire top of his head was crushed, and his condition was considered very serious.

LEGAL

SALE OF OIL AND GAS LEASES, DEPARTMENT OF THE INTERIOR—Shreveport, Louisiana, Notice is hereby given that the following described land in three units in the known geologic structure of the Monroe Gas Field, Louisiana, are offered for lease under Section 17 of the Act of February 25, 1920 (41 Stat. 437), at the customary sliding scale of 12½ to 33⅓ per cent of the quantity or value of the oil produced (except as to SW¼ NE¼ Sec. 26, T. 20 No., R. 3 E., in which only the gas content has been reserved to the United States) of 12½ to 16⅔ per cent of the value of the gas produced and of 16⅔ per cent of the value of the natural gas gasoline produced from each unit in accordance with the royalty schedule in the regular lease form and the rental as required by Section 17 of the said act: Unit No. 1—T. 18 N., R. 4 E., Sec. 24, Lot 3, 9.24 acres. Unit No. 2—T. 19 N., R. 5 E., Sec. 10, SE¼ SE¼, 39.82 acres; T. 20 N., R. 5 E., Sec. 34, SE¼ SE¼, 40.07 acres. Unit No. 3—T. 20 N., R. 3 E., Sec. 26, SW¼ NE¼, 39.75 acres. All Louisiana Meridian, Louisiana. The units are to be offered separately and are to be so considered as a basis for the payment of royalty, but all the units may be included in one lease if awarded to one bidder. The lessee will be required to proceed with reasonable diligence to install standard or other efficient drilling outfits and equipment and within three months of delivery of the executed lease to commence drilling one well on each tract of the leasehold. The drilling of each well shall be continued to production or to a point where the well is demonstrated unsuccessful; and if any well be demonstrated unsuccessfull additional wells shall be drilled in lieu thereof until one productive well shall be drilled on each tract or the tract proved barren. Neither more nor less than one productive well shall be drilled on any tract without consent in writing first obtained from the lessor. After drilling operations shall be initiated and thereafter prosecuted continuously and diligently in accordance with the Federal oil and gas operating regulations and with the oil and gas conservation laws of the State of Louisiana. Said leases will be offered for sale by public auction at the Federal Court Room, Shreveport, Louisiana, at 10 a.m. on May 3, 1930, to the bidder or bidders offering the highest bonus for the leases on the terms specified. The successful bidder must deposit on the date of sale with the officer in charge of the sale certified check on a solvent bank, or cash, for one-fifth of the amount bid by him, and file the showing of qualifications to receive a lease required by Section 15 of said regulations. Bidders are warned against violations of the provisions of Section 59, U. S. Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any or all bids in the discretion of the Secretary of the Interior. James W. Neal, Officer in Charge.

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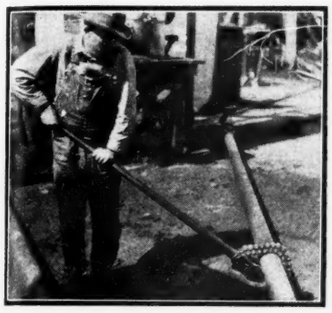

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Production in First Two Months Indicates Lower Output in 1930

By James McIntyre

Production in the United States in January and estimated production in February indicate that thus far oil was being produced at the rate of 962,678,375 bbls. per year. If the curtailment of production continues in Oklahoma, Texas and California, the tremendous production of last year will not be duplicated, and there may be a decline of 50,000,000 bbls. or more. Production in January totaled 81 309,519 bbls., a daily average of 2,622,888 bbls. This was only 320 bbls. a day more than in December.

Estimated production in February was 74,257,727 bbls., an average of 2,652,062 bbls. per day. Production in March should be appreciably lower as California will cut down its crude output. Oklahoma production is being held down to refinery requirements or even below requirements.

Texas is the only State that is overproducing. With the exception of the Yates Pool in Pecos County, the State is doing little in the conservation movement. The Hendricks Pool, which is named among the prorated areas, is declining naturally. The Gulf Coast area is increasing in production with no attempt being made to lessen it.

Following are the production figures for January:

SUMMARY BY PRODUCING DIVISIONS

Crude Oil Production in the United States in January, 1929

	Daily av. (bbls.)	Month (bbls.)
Oklahoma	671,064	20,802,984
California	709,137	21,983,242
Texas	815,624	25,284,352
Kansas	105,587	3,273,197
Arkansas	58,635	1,817,685
Louisiana	57,451	1,780,969
Montana	8,176	253,456
Wyoming	46,158	1,430,898
Colorado	4,877	151,187
New Mexico	10,179	315,549
Eastern fields	136,000	4,216,000
Total January	2,622,888	81,309,519
Total December	2,622,568	81,299,596
Difference	320	9,923

MID-CONTINENT FIELD

	Daily av. (bbls.)	Month (bbls.)
Kansas	105,587	3,273,197
Oklahoma	671,064	20,802,984
North Texas	89,303	2,768,393
Central Texas	43,119	1,336,689
West Texas	342,222	10,608,883
East Central Texas	21,597	669,523
Panhandle Texas	85,658	2,655,398
North Louisian	37,534	1,163,554
Arkansas	58,635	1,817,685
Total January	1,454,719	45,096,289
Total December	1,475,760	45,748,600
Difference	21,041	652,311

GULF COAST AND SOUTHWEST TEXAS

	Daily av. (bbls.)	Month (bbls.)
Gulf Coast	189,731	5,881,707
Southwest Texas	63,908	1,981,174
Total January	253,639	7,862,881
Total December	235,438	7,298,578
Difference	18,201	564,303

OKLAHOMA

Daily average and monthly production in January

County—	Daily av. (bbls.)	Month (bbls.)
Washington	4,971	154,101
Nowata	4,916	152,396
Rogers	2,188	67,828
Osage and Eastern Kay Counties—		
Burbank	16,738	518,878
Osage, outside Burbank	23,109	716,379
Total	39,847	1,235,257
Tulsa and Wagoner Counties—		
Bird Creek, Owasso, etc.	3,111	96,441
Red Fork, Sand Springs, Turkey Mt., Bruner	1,135	35,185
Bixby, Leonard	867	26,877
Broken Arrow, Coweta	919	28,489
Total	6,032	186,992
Tulsa, Okmulgee and Muskogee Counties—		
Okmulgee and Beggs	2,474	76,694
Mounds	1,659	51,429
Bald Hill and Haskell	2,283	70,773
Morris, Boynton, Cole	1,991	61,721
Total	8,407	260,617
Okmulgee, Okfuskee, Seminole, Hughes and Pottawatomie Counties—		
Seminole City	23,280	721,680
East Seminole	4,748	147,188
Bowlegs	23,666	733,646

(Continued on next page)

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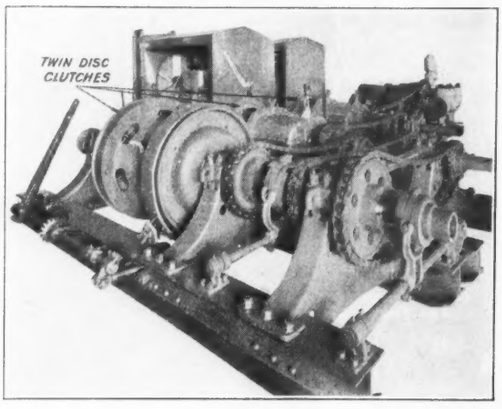

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TWIN DISC CLUTCHES

County—	Daily av. (bbls.)	Month (bbls.)
Little River	64,759	2,007,529
Earlsboro	97,133	3,011,123
Searight	7,986	247,566
Mission	14,833	459,823
Carr City	8,492	263,252
Maud	7,163	222,053
Total Seminole Field	252,060	7,813,860
Allen	24,207	750,417
Konawa	3,019	93,589
Asher	2,580	79,980
Pearson-St. Louis	47,234	1,464,254
Sasakwa	12,709	393,979
Beebe	2,563	79,453
Henryetta, Deaner-Lyons, etc.	6,257	193,967
Wewoka	4,183	129,673
Cromwell	7,277	225,587
Papoose-Gilcrease	2,894	89,714
Jarvis-Holm	321	9,951
Weleetka	977	30,287
Wetumka	39	1,209
Yeager	451	13,981
Miscellaneous	811	25,141
Total	367,582	11,395,042
Creek and Tulsa Counties—		
Glen Pool, Jenks, Kiefer	6,446	199,826
Sapulpa and Fisher	612	18,972
Cushing, Shamrock	14,533	450,523
Bristow, Kellyville and Depew	13,282	411,742
Pickett Prairie and North Bristow	1,807	56,017
Eastern Bristow or Slick	5,343	165,633
Total	42,023	1,302,713
Pawnee County—		
Cleveland	2,703	83,793
Keystone	1,583	49,073
Jennings	3,177	98,487
Otoe	510	15,810
Ralston-Masham	182	5,642
Total	8,155	252,805
Payne County—		
Yale, Quay, Ingalls	3,825	118,575
North Cushing	2,513	77,903
South Cushing	252	7,812
Mehan-Ripley	1,197	37,107
Total	7,787	241,397
Oklahoma County—		
Oklahoma City	82,301	2,551,331
Lincoln County—		
Stroud	907	28,117
Davenport	1,793	55,583
Kendrick	192	5,952
Total	2,892	89,652
Kay, Grant and Noble Counties—		
Blackwell	938	29,078
Vernon	835	25,885
Otstot	666	20,646
Deer Creek	649	20,119
Ponca City	592	18,352
Mervine	212	6,572
Braman	3,665	113,615
Hubbard	1,605	49,755
Thomas	430	13,330
Garrett	55	1,705
Tonkawa	8,334	258,354
Billings	130	4,030
Miscellaneous	1,513	46,903
Total	19,624	608,344
Garfield County—		
Garber	4,351	134,881
Logan County—		
Lovell	638	19,778
Marshall	10,304	319,424
Total	10,942	339,202
Carter County—		
Healdton	11,937	370,047
Hewitt	7,430	230,330
Graham	2,760	85,560
Brock	589	18,255
Fox	2,224	68,944
Sholom Alechem	13,783	427,273
Total	38,723	1,200,413
Stephens and Cotton Counties—		
Loco-Milroy	1,356	42,036
Comanche	1,118	34,658
Duncan	4,680	145,080
Walters	2,726	84,506
Kilgore	375	11,625
Total	10,255	317,905
Jefferson County—		
Hambro, etc.	2,028	62,868
2s-6w	183	5,673
Total	2,211	68,541
Caddo County—		
Cement	2,113	65,503
Garvin County—		
Robberson	1,910	59,210
Grady County—		
Knox	3,268	101,308
Beckham County—		
Sayre	35	1,085
Marshall County—		
Madill	531	16,461
Total January	671,064	20,802,984
Total December	648,156	20,092,876
Difference	22,908	710,108

KANSAS

Daily average and monthly production in January

Sedgwick County—	Daily av. (bbls.)	Month (bbls.)
Wright	18,432	571,392
Greenwich	3,019	93,589
Robbins	440	13,460
Miscellaneous	1,019	31,589
Total	22,910	710,210
Marion County—		
Florence-Urschel	409	12,679
Peabody	1,250	38,750
Covert-Sellers	427	13,237
Lost Springs	545	16,895
Davis	802	24,862
Total	3,433	106,423
Butler County—		
Elbing	2,057	63,767
Potwin	347	10,757
Cameron-Robinson	605	18,755
Wilson-Dunkle	1,444	44,764
Towanda	1,842	57,102
Fox-Bush	953	29,543
Nuttle-Koogler	2,895	89,745
Eldorado	6,131	190,061
Smock	197	6,107
Leon-Weaver	4,863	150,753
North Augusta	767	23,777
South Augusta	1,054	32,674
Sluss	207	6,417
Douglass	108	3,348
Keighly	493	15,283
Benton	59	1,829
Blankenship	704	21,824
Total	24,726	766,506
Greenwood and Woodson Counties—		
Sallyards	942	29,202
Teeter-Pixley-Scott	4,606	142,786
Virgil	5,228	162,068
Thrall-Burkett	1,136	35,216
Seeley	7,417	229,927
Polhamus	677	20,987
Miscellaneous	741	22,971
Total	20,747	643,157
Cowley County—		
Rainbow Bend	1,239	38,409
Slick	498	15,438
Graham	211	6,541
Rock	140	4,340
Clark	112	3,472
Eastman	358	11,098
Winfield-New Salem	1,893	58,683
Miscellaneous	810	25,110
Total	5,261	163,091
Other Counties—		
Rooks	84	2,604
Sumner	8,315	257,765
Rice	607	18,817
Russell	3,870	119,970
Reno	25	775
McPherson	2,889	89,559
Harvey	6	186
Trego	20	620
Coffey	265	8,235
Chautauqua	2,998	92,938
Elk	1,793	55,583
Wilson	157	4,867
Montgomery	1,315	40,765
Allen	457	14,167
Neosho	513	15,903
Lyon	903	27,993
Miami	965	29,915
Franklin	304	9,424
Douglas	12	372
Bourbon	103	3,193
Linn	121	3,751
Anderson	1,632	50,592
Labette	27	837
Chase	12	372
Woodson	1,097	34,007
Total January	105,587	3,273,197
Total December	114,486	3,549,066
Difference	8,899	275,869

NORTH TEXAS

Daily average and monthly production in January

Burkburnett	9,063	280,953
Electra	11,410	353,710
Iowa Park-K-M-A	4,715	146,165
Archer County	17,357	538,067
Clay County	1,013	31,403
Wilbarger County	25,487	790,097
Montague County	6,411	198,741
Young County	8,435	261,485
Baylor County	380	11,780
Cooke County	4,821	149,451
Foard County	211	6,541
Total January	89,303	2,768,393
Total December	95,430	2,958,330
Difference	6,127	189,937

CENTRAL TEXAS

Daily average and monthly production in January

Runnells	16	496
Coleman	5,045	156,395
Comanche	160	4,960
Stephens	5,313	164,703
Eastland	5,059	156,829
Brown	8,263	256,153
Callahan	3,342	103,602
Throckmorton	703	21,793
Jack	4,079	126,449
Haskell	61	1,891
Palo Pinto	654	20,274
Shackelford	8,047	249,457
Jones	2,149	66,619
Erath	228	7,068
Total January	43,119	1,336,689
Total December	47,896	1,484,776
Difference	4,777	148,087

WEST TEXAS

Daily average and monthly production in January

Field and county—	Daily av. (Lbls.)	Month (bbls.)
Big Lake, Reagan	15,170	470,260
Chalk-Settles, Glasscock and Howard	38,750	1,201,247
Church, Fields, Crane	20,250	627,764
Hendricks, Winkler	88,130	2,732,030
McCamey-Taylor, Upton	7,681	238,114
McElroy, Crane	14,298	443,233
Skelly, Reagan	192	5,961
Ira, Scurry	24	750
Powell, Crockett	1,569	48,645

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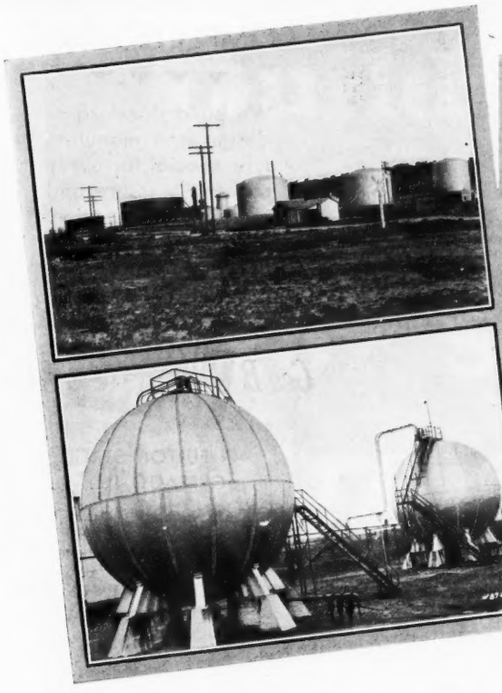

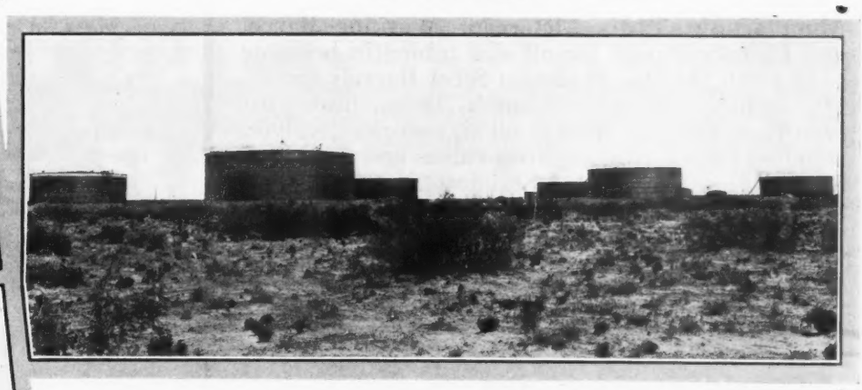

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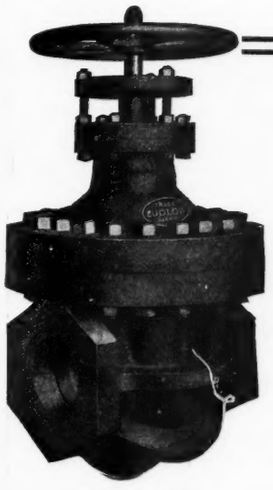

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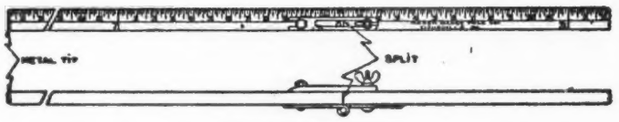

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See Classified Wants on Pages 124-125

	Daily av. (bbls.)	Month (bbls.)
Yates, Crockett	116	3,600
Stephens, Fisher	1,197	37,096
Westbrook-Iatan, Mitchell	2,085	64,633
Wheat, Loving	1,052	32,610
Yates, Pecos	142,080	4,404,486
Hazlett, Ward	469	14,545
O'Brien-Hutchings, Ward	1,053	32,630
Grand Falls, Ward	22	774
Mertson, Irion	68	2,100
Pecos Valley, Pecos	76	2,361
Penn, Ector	607	18,815
Taylor-Link, Pecos	6,937	215,082
Taylor, Taylor	116	3,600
Phillips-Pryor, Pecos	39	1,215
Toborg, Pecos	237	7,332
Total January	342,222	10,608,883
Total December	344,126	10,667,906
Difference	1,904	59,023

EAST CENTRAL TEXAS
Daily average and monthly production in January

Boggy Creek	3,339	103,515
Cedar Creek	54	1,670
Currie	379	11,745
Hill County	81	2,522
Mexia	4,617	143,140
Minerva	565	17,500
Nigger Creek	256	7,950
Powell	6,584	204,101
Richland	303	9,395
Thrall	87	2,685
Van	4,407	136,625
Wortham	925	28,675
Total January	21,597	669,523
Total December	21,002	651,062
Increase	595	18,461

TEXAS PANHANDLE
Daily average and monthly production in January

Hutchinson	23,856	739,536
Carson	9,325	289,075
Gray	51,360	1,592,160
Moore	566	17,546
Wheeler	551	17,081
Total January	85,658	2,655,398
Total December	104,214	3,230,634
Difference	18,556	575,236

NORTH LOUISIANA
Daily average and monthly production in January

	Daily av. (bbls.)	Month (bbls.)
Caddo, light	9,533	295,523
Caddo, heavy	2,759	85,529
Homer	3,706	114,886
Haynesville	4,643	143,933
De Soto-Red River	2,705	83,855
Elm Grove	505	15,655
Bellevue	631	19,561
Cotton Valley	2,240	69,440
Urania	5,163	160,053
Pleasant Hill	888	27,528
Zwolle	3,705	114,855
Total January	37,534	1,163,554
Total December	38,609	1,196,879
Difference	1,075	33,325

ARKANSAS
Daily average and monthly production in January

	Daily av. (bbls.)	Month (bbls.)
El Dorado	4,272	132,432
Smackover, light	5,480	169,880
Smackover, heavy	10,288	1,248,928
Stephens	1,006	31,186
Nevada County	1,132	35,092
Lisbon	1,067	33,077
Bradley	75	2,325
Champagnolle	5,206	161,386
Mount Holley	109	3,379
Total January	58,635	1,817,685
Total December	61,841	1,917,071
Difference	3,206	99,386

SOUTHWEST TEXAS
Daily average and monthly production in January

Field—	Daily av. (bbls.)	Month (bbls.)
Branyon	21	666
Bruner	27,214	843,657
Buchanan	18	560
Dale	432	13,392
Darst Creek	13,591	421,314
Kingsville	187	5,801
Larremore	112	3,474
Luling	9,207	285,411
Lytton Springs	824	25,553
Manford	280	8,666
McMullen County	42	1,314
Medina	24	744
Mirando	9,357	290,059
Somerset	1,733	53,732
Yoast	866	26,831
Total January	63,908	1,981,174
Total December	56,261	1,744,091
Increase	7,647	237,083

GULF COAST
Daily average and monthly production in January
Southeast Texas

Field—	Daily av. (bbls.)	Month (bbls.)
Allen	10	296
Barbers Hill	22,286	690,878
Batson	1,242	38,483
Big Creek	5,436	168,513
Blue Ridge	1,922	59,580
Brenham	139	4,312

(Continued on next page)

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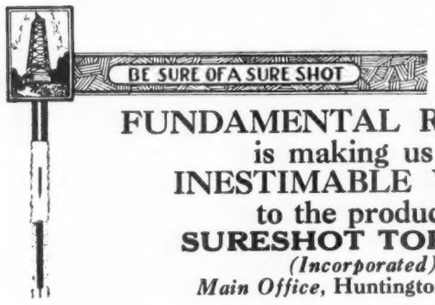

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	Daily av. (bbls.)	Month (bbls.)
Boling	1,077	33,388
Clay Creek	1,730	53,631
Damon Mound	475	14,710
DeWalt	12,067	374,077
Fannett	1,723	53,410
Goose Creek	5,060	156,863
Hankamer	436	13,520
High Island	1,550	48,056
Hull	9,952	308,517
Humble	12,923	400,625
Jasper County	25	775
Lost Lake	747	23,154
Markham	340	10,552
Moss Bluff	18	570
Nash	510	15,820
North Dayton	1,694	52,515
Orange	2,611	80,945
Orchard	79	2,436
Pierce Junction	12,299	381,277
Port Neches	2,470	76,563
Raccoon Bend	10,544	326,878
Refugio	24,228	751,063
Sheeks	614	19,046
Saratoga	1,001	31,040
Sour Lake	2,404	74,529
South Liberty	6,977	216,270
Spindletop	18,941	587,174
West Columbia	6,285	194,926
Total January	169,815	5,264,292
Total December	157,194	4,873,014
Increase	12,621	391,278

South Louisiana

Anse La Butte	45	1,395
Bayou Blue	44	1,365
Bayou Bouillon	67	2,088
Black Bayou	45	1,396
Caillou Island	59	1,841
Edgerly	841	26,056
Jennings	1,816	56,310
Hackberry	3,257	100,956
Lake Barre	276	8,541
Lake Pelto	282	8,745
Lockport	3,070	95,172
New Iberia	7	218
Port Barre	821	25,458
Sorrento	108	3,360
Starks	626	19,404
Sulphur	4,066	126,050
Sweet Lake	22	685
Vinton	3,897	120,798
Welsh	204	6,329
White Castle	363	11,248
Total January	19,916	617,415
Total December	21,983	681,473
Decrease	2,067	64,058
Total Gulf Coast	189,731	5,881,707
Total December	179,177	5,554,487
Increase	10,554	327,220

WYOMING

Daily average and monthly production in January

Big Muddy	1,802	55,862
Oregon Basin	4,114	127,534
Frannie	290	8,990
Elk Basin	671	20,801
Ferris	42	1,302
Grass Creek	1,788	55,428
Hamilton	637	19,747
LaBarge	2,242	69,502
Lance Creek	157	4,867
Lost Soldier	3,082	95,542
Osage	656	20,336
Poison Spider	777	24,087
Rock Creek	2,150	66,650
Rex Lake	77	2,387
Lander	407	12,617
Salt Creek	27,244	844,564
Teapot Dome	22	682
Total January	46,158	1,430,898
Total December	51,730	1,603,630
Difference	5,572	172,732

MONTANA

Daily average and monthly production in January

Pondera	2,031	62,961
Cat Creek	1,118	34,658
Kevin-Sunburst	4,952	153,512
Lake Basin	75	2,325
Total January	8,176	253,456
Total December	10,479	324,849
Difference	2,303	71,393

COLORADO

Daily average and monthly production in January

Craig	1,014	31,434
Fort Collins	1,696	52,576
Florence	442	13,702
Iles	1,059	32,829
Tow Creek	546	16,926
Miscellaneous	720	3,720
Total January	4,877	151,187
Total December	5,322	164,982
Difference	445	13,795

NEW MEXICO

Daily average and monthly prduction in January

Artesia	679	21,049
Cap Rock (Maljamar)	968	30,008
Lea	4,927	152,737
Hobbs	447	13,857
Jal	1,249	38,719
San Simon	528	16,368
Rattlesnake	856	26,536
Table Mesa	111	3,441
Hogback	414	12,834
Total January	10,179	315,549
Total December	9,203	285,293
Difference	976	30,256

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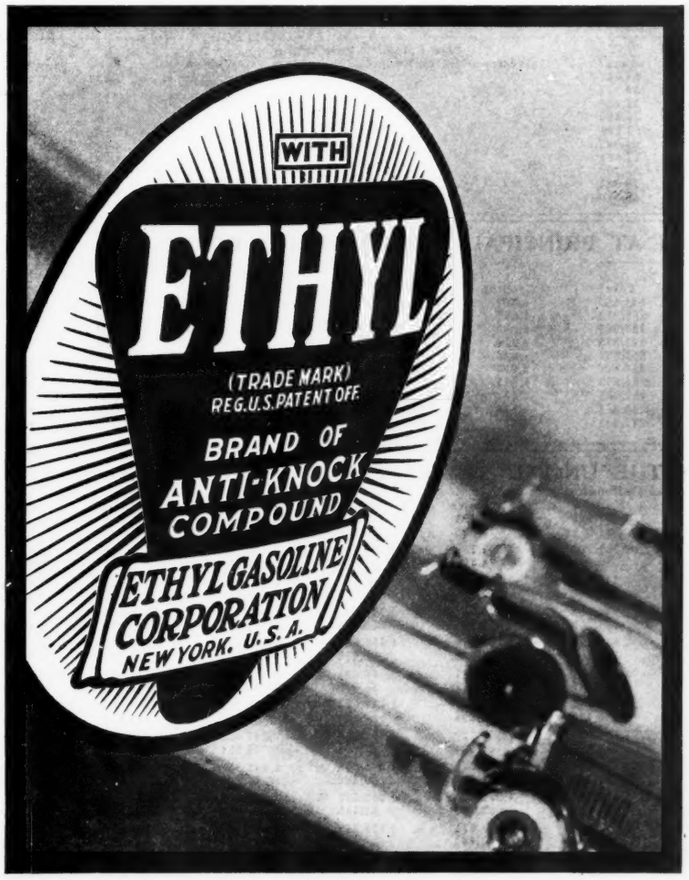

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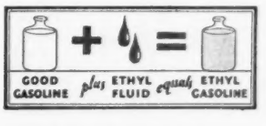

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